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ORIGINAL ARTICLES.

THE DIAGNOSIS AND TREATMENT OF FUNCTIONAL DISORDERS OF THE STOMACH.[1]

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THE distinction between functional and organic affections is by no means sharp. They encroach on each other in such a manner that the imaginary line which separates them is remarkable for its sinuosities, and here and there is so faint as scarcely to be traced. In both these respects it resembles the lines of demarcation, the so-called sutures, which both separate and unite certain cranial bones. These statements, while true in general, are of particular application to the diseases of the stomach, of which the disorders of function are generally, sooner or later, associated with some organic defect. Thus, disorders of secretion are frequently accompanied with some impairment of motor power, or even with some alteration in the secretory tissue.

Bearing in mind the difficulties inherent in the subject of functional disorders of the stomach, I will begin by stating that they are all included under the heads of disordered secretion, disordered motion, and impaired innervation. It is self-evident that these three classes of affections are not only closely associated, but interdependent. Like the three primary colors, they give rise, by their blending, to various affections in reality composite or secondary, but yet of primary importance.

My remarks upon these three modes of disordered function must be very brief and imperfect, for an elaborate discussion of either one of them would occupy more than the time allotted me.

To make myself thoroughly understood, I am obliged to make some preliminary remarks on the chemistry of normal digestion. It is well known that pepsin will not manifest its digestive power except in the presence of an acid concerning the nature of which there has been great difference of opinion. It has been variously regarded by men of the highest attainments in chemistry and physiology, as phosphoric, sarco-lactic, lactic, and hydrochloric; but, little by little, the first two were positively excluded from the discussion, which became limited to lactic and hydrochloric acids. For many years physiologists were at variance concerning these two acids, one set regarding lactic as undoubtedly the acid of the gastric juice, while another was equally positive that this acid could be no other than hydrochloric. For example, I myself was taught, by so great a physiologist as the late Professor John C. Dalton, that the acid of the gastric juice was lactic. The cause of these discrepancies is now plainly manifest, for during gastric digestion the reaction of the gastric contents is at one stage due to lactic, at another to hydrochloric acid. In fact, normal digestion, considered with reference to the presence of these acids, may be divided into three stages. During the first, which lasts about half an hour, lactic acid is present alone; later, lactic and hydrochloric acids are present simultaneously; and, finally, there comes a stage when the only acid present is hydrochloric. The last stage may begin half an hour after eating, or, at the latest, an hour thereafter—*i. e.*, in health, for in disease the duration of these three stages may be variously modified. The most important period of digestion is undoubtedly the last, for it is well established that pepsin acidified with hydrochloric acid digests more actively than when acidified with lactic. In fact, lactic acid is an adventitious product of the fermentation of carbohydrates, and is always found in the first stages of the digestion of a mixed diet—meat, bread, potatoes, etc.—but if egg albumen alone be administered to a fasting animal, and the contents of the stomach examined shortly afterward, hydrochloric will be the only acid detected.

The examination of the contents of the fasting stomach, which would long ago have settled this important physiological question, has only recently been undertaken. In the first place, it disproved the prevalent medical belief that the fasting stomach is empty. Rosin[1] introduced a soft-rubber tube into the stomachs of a number of individuals free from gastric disease, the time chosen for the experiments being the early morning hours before breakfast. In only two out of forty-four such experiments did he fail to obtain a sample of gastric juice, the amount of which in the forty-two positive cases varied between three and ten cubic centimetres. In thirty-one of these forty-two cases the fluid thus obtained contained free hydrochloric acid. The question whether the fasting stomach contains pepsin received

[1] Read before the Philadelphia County Medical Society, October 9, 1889.

[1] Dr. Heinrich Rosin: Deutsche med. Wochenschrift, November 22, 1888.

a positive answer in all the cases, six in number, in which the secretion was submitted to the digestive test. The important question whether lactic acid is present in the juice of the fasting stomach received a negative answer. In nearly all the cases the secretion gave the well-known biuret reaction, indicating the presence of peptone; but as this reaction is also given by the saliva, as well as by the nasal and pharyngeal mucus, it is reasonable to suppose that the peptone was swallowed with these secretions.

Now let us pause and consider what light these physiological facts throw on the disorders of gastric function.

In the first place, it is readily understood how the first, or lactic acid, stage of digestion may encroach upon the second and third stages of that process; but the question with which we are now concerned is whether this excessive lactic acidity gives rise to symptoms. There can, I think, be no doubt that such a condition is the chief cause of *pyrosis*. I do not go as far as Bourget,[1] who considers it the sole cause of that annoying symptom. He was led to this conclusion by finding that he could not produce pyrosis in his own person by swallowing two glasses of water containing 5 per cent. of HCl, but that it was experienced a few minutes after taking the same amount of water containing 1 per cent. of lactic acid with a trace of butyric acid. Pyrosis is undoubtedly a symptom of excessive lactic acid fermentation, and the earlier it appears after the ingestion of food the more certainly is it due to this cause. It is also a symptom of undue acidity of the gastric juice, or hyperacidity, it being always understood where this term is used that the acid in excess is HCl. The term *pyrosis hydrochlorica* has been applied to this condition. Finally, pyrosis is not necessarily due to an excess either of HCl or lactic acid, but may even make its appearance when the gastric juice is of subnormal acidity. It may be, in short, one of the symptoms of nervous dyspepsia, in which affection the gastric nerves are so hypersensitive as to suffer during a digestion which is, in all other respects, normal.

By hyperacidity is meant, as the term implies, that the gastric juice, which may be of normal or increased amount, contains an excessive amount of HCl. This condition is not to be confounded with hypersecretion, which means that the gastric juice is secreted in excessive amount during the intervals of digestion. As I have stated elsewhere, the former consists in a too liberal response to a physiological summons, while the latter is gratuitous. Hyperacidity occurs most frequently in connection with gastric ulcer, and, therefore, scarcely comes within the range of our subject. Hypersecretion, on the other hand, is a mere exaggeration of the normal processes, for—as demonstrated by the researches of Rosin, to which I have already alluded—the fasting stomach contains an appreciable amount of gastric juice. The limits within which the secretion of gastric juice, by a fasting stomach, may be considered physiological, are as yet unknown. It is certain, however, that the functional gastric disorder known as hypersecretion constitutes a well-marked pathological condition. Its principal symptoms are increased thirst, acid eructations, nocturnal attacks of epigastric pain, and dilatation of the stomach. The digestion of carbohydrates is greatly impaired, while that of the albuminous substances proceeds with abnormal vigor. Positive proof of this condition is afforded by the sound employed in the following manner: The stomach is thoroughly washed out in the evening and the patient directed to fast until the following morning, when the sound is again introduced. If hypersecretion exists, a quantity of fluid, varying from eight ounces to a pint, may be withdrawn: This fluid is colorless or slightly greenish, of viscid consistence, strongly acid, the acid being hydrochloric, and digests albumen rapidly. In a word, it is gastric juice.

Hypersecretion is probably always caused by disordered gastric innervation. It occurs in two forms, the one continuous, the other paroxysmal. The latter often coincides with the *crises gastrique* of tabes, and in such cases the neurotic character of the affection is plainly evident.

A knowledge of the absorbent power of the stomach is of diagnostic value, and may be obtained by the following test, first employed by Penzoldt and Faber[1] in 1882. Three grains of potassium iodide are administered in a gelatine capsule, and the saliva, which has been previously shown to be free from iodine, is tested every minute for this substance. In dealing with a healthy and empty stomach, the first iodine reaction will be obtained in from six and one-half minutes to eleven minutes. If the drug be administered immediately after a meal, the iodine reaction will not appear until from twenty to thirty, and may even be delayed until forty-five minutes have elapsed. By this means it has been shown that in various pathological conditions, such as cancer, ulcer, and chronic catarrh, absorption from the gastric mucosa is retarded. It can be readily understood that, in certain cases, a diminished absorption from this mucous membrane may be highly conservative. Litten[2] has demonstrated by the test just described, a diminished power of absorption in cases of atrophy of the mucous membrane of the stomach. Now, in many such cases, especially in the forms associated with pyloric stenosis and consecutive dilatation, the stomach may contain in its fermenting

[1] Revue Méd. de la Suisse Romande, No. 12, 1888.

[1] Berlin. klin. Wochenschrift, No. 21, 1882.

[2] Deutsche med. Wochenschrift, Nov. 22, 1888.

and putrefying contents an amount of ptomaines sufficient, if absorbed, to cause death by acute poisoning.

The usual precautions are to be taken in the administration of gelatine capsules; *i. e.*, they should not be given to a patient who is taking either alcohol or tannic acid, as both these substances render the gelatine insoluble.

It is often of diagnostic value to obtain some idea of the motor power of the stomach, which some authorities are inclined to regard as the most important function of that viscus. Until quite recently, the only method of acquiring such information was that introduced by Leube, and consisted in the introduction of the stomach-tube seven hours after a meal; *i. e.*, at a time when the food should have passed into the intestine. The presence of food at such a time would indicate an impairment of motor power, and the degree of the latter would be in direct ratio to the quantity of the former. This method is crude, and inapplicable to most clinical purposes.

The peculiar properties of salol led Ewald and Sievers to employ it for testing the motor function of the stomach. This drug remains insoluble and undecomposed in the stomach, but splits up into carbolic and salicylic acids when it comes in contact with the alkaline secretions of the intestine. The salicylic acid is excreted with the urine, in which it may be detected by suitable reagents, and the time between the administration of the drug and the detection of the salicylic acid in the urine is indicative of the motor power of the stomach. These properties of salol seem to render it peculiarly suitable for testing this function. With this object in view, fifteen grains of the drug are administered in capsules or pills, and the urine examined at frequent intervals. The first appearance of salicylic acid in that fluid shows that the salol has passed into the duodenum, and has been absorbed and excreted. I mention this ingenious test, for the purpose of showing the direction of present research in the diagnosis of disorders of the stomach, although I believe it can never come into general use. In the first place, the chemical test for salicylic acid in the urine is, as Stintzing[1] points out, an elaborate one, and, in the next, it is impossible for most persons to urinate at such short intervals as it demands. Again, Bourget[2] has shown by experiments on his own person that the diet is of great importance in determining the time in which salicylic acid appears in the urine. After eating nothing but meat and a glass of water containing 2 per cent. of HCl, the salol test was applied and salicylic acid detected in the urine in from one hour and a quarter to one hour and a half after the repast, whereas when fruit was eaten two hours before a meal consisting of meat and vegetables, the salicylic reaction was obtained in from fifteen minutes to half an hour. These discrepancies are explained in the following manner. The fluid contained in the first portion of the small intestine is not always alkaline. On the contrary it is often acid, its reaction depending to a large extent on the quantity of acid poured into the duodenum by the stomach. If to the gastric juice, already acid, there be added an additional quantity of HCl, as in the first experiment of Bourget, the chyme will have to traverse an unusually long section of intestine before it is neutralized, and the salol contained in it will be longer than usual in finding the alkaline medium in which alone it can be decomposed. On the other hand, by rendering the intestinal juice unusually alkaline, for example by eating fruit, of which the organic acids are decomposed into alkaline products, the chyme will be rapidly neutralized in the intestine and the salol speedily decomposed.

Huber[1] proposes the following modification of the salol test: The patient takes a dose of salol, and his urine is examined on the following day at stated periods. The longer the time during which the salicylic acid is detected in the urine, the weaker is the motor power of the stomach. In certain cases of undoubted motor insufficiency, the salicylic acid reaction could be obtained on the second day after the drug had been swallowed.

Klemperer[2] recommends the following test of the motor power of the stomach, on the score of greater accuracy. He injects a certain amount (100 grammes) of olive oil into the stomach, and at the end of two hours withdraws what is left. Oil being a substance that is not absorbed by the stomach, the difference between the amount injected and that withdrawn indicates the motor power. A number of experiments proved that a healthy stomach will discharge between 70 and 80 grammes of oil out of 100 in the course of two hours. In thirteen cases of gastric catarrh, this test showed a decided diminution of motor power, the amount of oil expelled in two hours varying between 23 and 44 grammes, just about half the quantity discharged in the same time in health. For obvious reasons this test is difficult of application, and Klemperer himself admits that it is not applicable in private practice.

I have now briefly alluded to the principal disorders of secretion, and have mentioned the most approved modern methods for detecting those of motor function. The third division of my subject is disorders of innervation, which can only be dealt with in the most cursory manner.

[1] Münchener med. Wochenschrift, Feb. 26, 1889.
[2] Loc. cit.

[1] Münchener med. Wochenschrift, 1889, No. 19.
[2] Deutsche med. Wochenschrift, 1888, No. 47.

Nervous dyspepsia has acquired a permanent position in nosology since its introduction by Leube,[1] in 1879, although his conception of the affection has undergone some decided modifications. Leube supposed the chemistry of digestion to be always normal in nervous dyspepsia, whereas numerous exceptions to this rule are now recognized. He also supposed the affection to be an independent or idiopathic one, whereas it is now regarded as a neurosis which seldom finds its sole expression in the gastric and intestinal nerves, but is, in most instances, a part of a general state of neurasthenia. For the latter reason, the terms neurasthenia gastrica and neurasthenia vago-sympathica have been applied to it, but nervous dyspepsia is, and doubtless will continue to be, the one most commonly employed.

The chief symptoms of nervous dyspepsia are eructations which, unlike those of gastric catarrh, are mostly tasteless and odorless, a sense of pressure and fulness in the epigastrium, and pain which is often independent of the quality of the food. A mouthful of water, for instance, will often give rise to severe pain, as is the case with a patient now under my care at the Jefferson Medical College Hospital. As a rule, however, pain is most readily induced by fatty and acid articles of food. Pyrosis is, as already stated, a symptom of this affection, and is sometimes peculiar in being associated with a subacid condition of the secretions. A capricious appetite is a characteristic feature of many of these cases. There may be complete anorexia alternating with periods of hyperorexia or bulimia. This morbid appetite may suddenly manifest itself at the most unseasonable hours, as in a case mentioned by Decker[1] in his excellent article on nervous dyspepsia. The individual in question was constantly roused from sleep by a sense of hunger, which he was oblige to appease with a hearty meal, composed of soup, eggs, cold beef, etc.

Insomnia is a frequent symptom of this disorder, whereas, on the contrary, in quite as many cases the patient is habitually drowsy. With reference to the stools there is nothing characteristic, except that they are not regular, a state of constipation often alternating with one of diarrhœa. The diagnosis is made by the exclusion of cancer, ulcer, and catarrh. The chief difficulty consists in distinguishing this condition of neurasthenia from one of chronic catarrh; but there are certain points which, if borne in mind, will prove of great value in this differential diagnosis. In catarrh the feelings of pressure and fulness are experienced directly after eating, and reach their maximum when digestion is at its height; whereas in nervous dyspepsia these symptoms are very variable with reference to the time of their appearance, and are often relieved by eating. They may also disappear for weeks or even months. The appetite in nervous dyspepsia is, as already stated, capricious, whereas in catarrh it is permanently absent. Valuable diagnostic aid may sometimes be derived from the effects of treatment. For example, it is said by Decker[1] that the Carlsbad cure, which is so beneficial in cases of gastric catarrh, is invariably injurious in nervous dyspepsia.

I have now reached the last and most important part of my subject, viz., the treatment of functional disorders of the stomach; and here I must repeat what I stated with reference to their diagnosis, that the time suffices for nothing more than a few therapeutic suggestions. I will first consider the treatment of pyrosis, a symptom to which I called your attention in an early part of this paper, and I do this, not only because it comes first in order, but also because its consideration will furnish some useful therapeutic hints. There are, as I stated, at least two kinds of pyrosis, one due to an excess of lactic acid and the other to an excess of hydrochloric; and the time-honored treatment of this symptom, without reference to its cause, has been the administration of sodium bicarbonate. The following experiment of Bourget shows that this drug, in the commonest form of pyrosis—that caused by an excess of lactic acid—is, at most, an evanescent palliative. To a patient with chronic gastric catarrh and dilated stomach, was given a certain amount of soup, some of which was withdrawn two hours later, and found to contain 1.68 per cent. of lactic acid and no HCl. It was then exactly neutralized with sodium bicarbonate and placed in an incubator. At the end of half an hour it contained 4 per cent. of lactic acid. It was again neutralized and about eight grains of sodium bicarbonate added in excess. At the end of an hour free lactic acid was found. On the other hand, HCl given during a meal was found to prevent the formation of lactic acid. This corresponds with the physiological fact that the lactic acid formed during the first half hour of digestion is speedily suppressed by HCl. Bicarbonate of sodium undoubtedly neutralizes any lactic acid that may be present in the stomach, but instead of preventing its further formation, seems to increase it by creating an alkaline medium favorable to the growth of the organism of the lactic acid fermentation. Lactic acid pyrosis, therefore, is to be treated by the administration of HCl during, or immediately after, a meal.

Pyrosis hydrochlorica may be due to hyperacidity or hypersecretion. In the first instance, it is to be treated by the administration of an alkali several hours, from four to six, after a meal. In hyperacidity the gastric juice is abnormally active, its physiological work is soon performed, and then it expends its

[1] Deutsches Archiv für klin. Med., Bd. xxiii., 1879.
[2] Münchener med. Wochenschrift, May 28, 1889.

[1] Loc. cit.

superfluous energies upon the unfortunate patient. Having waited until its work is done, it is rendered powerless for mischief by the administration of an alkali, just as in peptonizing milk we boil the mixture or place it on ice to prevent the process from going too far.

The most successful treatment of hypersecretion consists in the methodical washing out of the stomach, preferably just before the principal meal, and the administration of alkalies. The latter should be given in large doses, for, as is well known, the administration of a small dose of an alkali will be followed by an increased secretion of gastric juice. Thirst is often excessive in these cases, but water should not be allowed except in small quantities, as it tends to increase the dilatation which is usually present. When the sense of thirst becomes unbearable, it is better to obtund it, as Riegel suggests, by the administration of small doses of opium than to permit the ingestion of large quantities of water. The diet should, at first, consist exclusively of albuminous substances, as carbohydrates are only partially digested, and by their fermentation aggravate the disease. Dr. Roberts, of Manchester, observing a profuse flow of saliva in cases of acid dyspepsia, and believing it to be a provision of nature for relieving the surplus acidity of the stomach, recommends the use of substances that will provoke its secretion, such as gum lozenges containing a small amount of ginger, cayenne pepper, or pyrethrum. He has thus experienced relief in his own person and given it to others.

In cases of motor insufficiency, in addition to general hygienic measures, the vegetable bitters, especially strychnia, and alcoholic stimulants may be used with advantage. Klemperer[1] found that both substances hastened the exit of food from the stomach.

The treatment of nervous dyspepsia must vary with the cause producing it. One case will be cured by restoring the uterus to its normal position; another by curing a chronic constipation or expelling a tape-worm; still another by allaying an irritation of the spine. A restricted diet, or one of milk only, which is always beneficial in catarrh, is of little or no benefit in cases of nervous dyspepsia. General supporting measures, massage, electricity, the bromide salts, and, if anæmia exists, arsenic and a mild non-constipating preparation of iron, such as the potassio-tartrate, are the chief indications. I believe also, from a limited experience of the measure, that lavage may sometimes be of decided service in soothing a hyperæsthetic mucosa.

Dr. John Guitéras delivered the address before the semi-annual meeting of the Pathological Society of Philadelphia, on Thursday evening, October 24, 1889.

[1] Loc. cit.

EXPERIMENTAL STUDIES ON THE ETIOLOGY OF TYPHOID FEVER.[1]

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In a discussion[2] before the Cincinnati Academy of Medicine, November 5, 1888, I called attention to the fact that experimental ptomaine poisoning, as well as clinical evidence, justified the belief that not only the fever, but all other constitutional symptoms of typhoid fever are caused by ptomaines. If this be true, then why are the nervous and other constitutional symptoms not in accord with the fever? Why, if poisonous alkaloids produce both fever and nervous symptoms, is there not a closer correspondence between the two?

The following explanation, founded on the ptomaine observations of Brieger, was offered: Brieger found that the ptomaine formed depended, to a great extent, on the kind of albuminous material in which the microörganisms were growing. The ordinary germs of putrefaction produce alkaloids differing in chemical, physiological, and poisonous properties when they are decomposing different materials, as fish, cheese, muscle, and brain. Is it not altogether probable, then, that the typhoid bacillus will produce different ptomaines according to the composition of the food material in the intestinal tract? In a certain form of nitrogenous food it may produce a ptomaine the characteristic symptom of which is fever; in another kind, a ptomaine which produces profound nervous symptoms.

It was not my belief then, nor is it now, that all the symptoms of typhoid fever are produced by ptomaines formed in the intestinal canal, since these poisonous bodies are undoubtedly produced in all parts of the body where the bacilli find a lodgement and multiply. It is also probable that certain symptoms may be due to a local irritating effect of the ptomaines on the part in which they are produced. While this is probably true, it is, nevertheless, a belief supported by much clinical evidence that the intestinal canal is the great manufactory and storehouse for these poisons, and that most of the constitutional symptoms throughout the disease are due to their absorption from this source.

Shortly after this discussion I began an experimental study of these questions, hoping to find physiological differences in typhoid ptomaines produced in various food-stuffs, and in that way to throw some tight on the dietetic management of the disease.

In the following experiments I injected into a rabbit's stomach the whole culture containing the

[1] Read before the Cincinnati Academy of Medicine, September 30, 1889. I am indebted to Drs. A. R. Chapin, Otis Cameron, and Leonard Freeman for assistance in this work.

[2] See Cincinnati Lancet and Clinic, December 8, 1888.

active bacilli as well as the products of their growth, because I feared that in attempting the destruction of the germs by heat or otherwise I might also destroy or change the character of their ptomaines. This course was decided upon because it was my belief that rabbits were not susceptible to typhoid fever, and for this reason I concluded that the introduction of the typhoid bacilli could have no appreciable effect on the symptoms, and that the result would, therefore, be either directly or indirectly due to the chemical products introduced with the culture. These experiments are, I think, of some interest in the direction anticipated, but their chief value lies in the fact that one of the rabbits died from typhoid fever, and not from poisoning by the ptomaines introduced into its stomach.

The bacilli used in these experiments were from the stock cultures of the bacteriological laboratory of the Medical College of Ohio, and were from two different sources.

One-half the cultures used were descended from a culture received from Johns Hopkins University six months before. The other half were descendants from a culture made one year before, by Dr. Otis Cameron, from the spleen of a man who died from typhoid fever in the Cincinnati Hospital. The culture materials used were:

1. Peptonized milk.

2. Peptonized beef. This was made by mashing into a fine pulp the coagulate resulting from making beef-tea, adding it to the tea and peptonizing the whole.

3. Peptonized brain, made in same manner as the beef.

4. Bouillon and beef peptonoids.

These materials were put in test-tubes and sterilized in the ordinary way. Only tubes which more than three weeks' time had proved to be sterile were used. After inoculation these tubes were placed in a crate, wrapped in paper to exclude the light, and kept in a temperature of 94° to 98° F. My object was to furnish conditions as nearly resembling those found in the intestinal tract as possible.

The rabbits were inoculated as follows: From sixty to eighty minims of tincture of opium were injected into the peritoneal cavity. As soon as the rabbit became drowsy from the opium, four drachms of a five per cent. solution of bicarbonate of soda were injected through a stomach-tube into the rabbit's stomach, and in the same manner, directly afterward, the contents of a typhoid culture tube were thrown into the stomach. The rabbits were then placed in separate cages, and given plenty of cabbage and moist bread.

The purity of the cultures used was tested in each instance, by inoculating potatoes, just prior to their use. In this manner it was learned that all the cultures used were pure typhoid.

The histories are arranged not in the order in which the rabbits were inoculated, but for convenience of reference, according to the character of the culture material.

The average normal temperature of the rabbits experimented upon was 101° F.

No. 1.—Age ten weeks. Inoculated July 31, 1889, with a pure culture in bouillon and beef peptonoids three and a half months old. Germs descended from spleen culture. August 1st, stupid; temp. 103°. 2d, very dull; temp. 102°. 3d, very dull; temp. 102°—died during the night. Post-mortem showed no cause of death; small intestine deeply injected.

No. 2.—Age ten weeks. Inoculated July 31, 1889, with a pure culture in bouillon and beef peptonoids three and a half months old. Germs descended from spleen culture. August 1st, temp. 102.4°; not active. 2d, dull; temp. 102.4°. 3d, temp. 102°; very stupid. 4th, died this morning. Post-mortem showed no cause of death; small intestine deeply injected.

No. 3.—Age twelve weeks. Inoculated July 31, 1889, with a pure culture in bouillon and beef peptonoids three and a half months old. Germs descended from spleen culture. August 1st, temp. 102.8°; not active. 2d, temp. 102.6°; dull. 3d, temp. 102.6°; dull. 4th, temp. 102.2°; very dull. 5th, died last night. Post-mortem showed no cause of death; small intestine deeply injected.

No. 4.—Age twelve weeks. Inoculated July 31, 1889, with a pure culture in bouillon and beef peptonoids three and a half months old. Germs descended from culture from Johns Hopkins University. August 1st, temp. 102.8°; dull. 2d, 102.4°; dull. 3d, 102.8°; dull. 4th, temp. 102.6°; dull. 5th, temp. 102.4°; not active. 6th, no notes taken. 7th, temp. 103°; active. 8th, temp. 99.8°; diarrhœa. 9th, temp. 99.6°; active, profuse diarrhœa. 11th, temp. 96°; profuse diarrhœa, much emaciated, very weak. 12th, temp. 95.6°; very weak and stupid, appetite good all the time; diarrhœa continues. 13th, died this morning. Post-mortem: great emaciation; no evidence of disease, except in small intestine, which was deeply injected. This injection was especially marked in the ileum, about Peyer's glands. Four small follicular ulcers were found in the ileum opposite the mesenteric attachment, while deeply injected bloodvessels radiated from these ulcers.

These cases were treated exactly alike. Each one was inoculated with the same quantity of pure culture three and a half months old in bouillon to which beef peptonoids had been added. A glance will show that the clinical histories of these rabbits correspond very closely. All of them had a slight increase in temperature, and were dull and stupid from the beginning. One lived three, one three and a half, one four, and one twelve days. In the rabbit that lived twelve days the stupor disappeared on the fifth day, and the temperature fell below normal on the eighth day, and remained so until death. That the symptoms in this group of cases

were not due to the opium injected, is, I think, quite evident from a comparison of these cases with those related below. It seems, therefore, a rational conclusion that the fever and the nervous symptom of stupor, coming on immediately, were produced by ptomaines formed in the beef peptonoids previous to the introduction of the cultures into the stomachs of the rabbits. We may at least claim that the above histories *indicate* that typhoid bacilli, when grown in beef peptonoids, will produce ptomaines capable of producing fever and profound nervous symptoms.

No. 5.—Age six weeks. Inoculated March 24, 1889, with a pure culture in peptonized brain two months old. Germs descended from culture from Johns Hopkins University. March 25th and 26th, temp. not taken; quite dull, eats little. 27th, temp. 98.8°. 28th, temp. 99.4°. 29th, temp. 96.2°. 30th, temp. 97°. 31st, died last night. This rabbit was dull and stupid all the time, and ate very little. Post-mortem: great emaciation; bladder distended. The small intestine, and especially the ileum, was hyperæmic.

No. 6.—Age six weeks. Inoculated March 24, 1889, with a pure culture in peptonized brain two months old. Germs descended from spleen culture. March 25th and 26th, temp. not taken; stupid, no appetite. 27th, temp. 96.2°; very dull, eats nothing. 28th, temp. 99.8°; dull. 29th, temp. 98°; dull. 30th, temp. 99.2°; no appetite. 31st, temp. 99.2°. April 1st, temp. 96.8°; dull, eats better. 2d, temp. 97.8°. 3d, dead. Post-mortem: great emaciation; bladder distended; small intestine injected. In the ileum three small follicular ulcers were found; spleen, liver, and kidneys were apparently normal. A plate culture was made from the spleen, but no typhoid bacilli were found.

No. 7.—Age six weeks. Inoculated March 24, 1889, with a pure culture in peptonized beef two months old. Germs descended from spleen culture. March 25th and 26th, temp. not taken; dull; eats little. 27th, temp. 99.6°; dull; no appetite. 28th, temp. 98°; dull. 29th, temp. 96°; dull; eats better. 30th, temp. 96°; stupid. 31st, dead. Post-mortem: much emaciated; bladder distended; ileum hyperæmic, especially about the large Peyer's patch near the cæcum and about another Peyer's patch six inches above.

No. 8.—Age six weeks. Inoculated March 24, 1889, with a culture two months old in peptonized beef. Germs descended from culture from Johns Hopkins University. March 25th and 26th, temp. not taken; dull. 27th, temp. 99.4°. 28th, temp. 101.7°; active; eats well. 29th, temp. 98.4°; active. 30th, temp. 99.5°; active. 31st, temp. 98.4°; eats well; not so active. April 1st, temp. 99.5°; rather dull. 2d, temp. 97.2°; dull. 3d, dead. Post-mortem: bladder distended; marked hyperæmia throughout ileum.

It will be noticed that there is a marked similarity in the clinical histories of these cases; there being no marked difference in the symptoms of those treated with a culture in peptonized brain and those treated with a culture in peptonized beef. All were quite stupid from the first day and all had subnormal temperatures on the third day, this being the first day upon which their temperatures were taken. Two of these rabbits lived seven and two nine days.

Im comparing the clinical histories of groups 1 and 2, the following points are worthy of note:

1st. The nervous symptom of stupor was the same in both groups.

2d. The temperature on the third day in group 1 was increased, while in group 2 it was subnormal.

3d. The rabbits in group 1, with a single exception, died much sooner than those in group 2.

From these facts we may infer:

1st. That typhoid ptomaines may be formed in peptonized beef and brain which are capable of producing just as profound nervous symptoms as those formed in the beef peptonoids of the shops.

2d. That the former produce no fever, while the latter produce fever.

3d. That the beef and brain ptomaines are less virulent than the peptonoid ptomaines.

It must also be borne in mind that there may be a possible error in the above inference dependent on the fact that the cultures used in the two groups differed in age. Those used in group No. 1 were three and a half months old, while those used in group No. 2 were two months old. This may account for the difference in severity but probably does not account for the difference in character of the symptoms produced.

No. 9.—Age twelve weeks. Inoculated March 24, 1889, with a pure culture two months old in peptonized milk. March 25th and 26th, apparently well; temp. not taken. 27th, temp. 99°; active; eats ravenously. 28th, temp. 100.2°; eats. 29th, temp. 96.4°; not active. 30th, temp. 98°; dull. 31st, dead.

No. 10.—Age twelve weeks. Inoculated March 24, 1889, with a pure culture two months old in peptonized milk. Germs descended from spleen culture. March 25th and 26th, temp. not taken; apparently well. 27th, temp. 102°; very active; eats well. 28th, temp. 101.6°; active; out of box; eats well. 29th, temp. 97.2°; not active. 30th, temp. 99.4°; active; good appetite. 31st, temp. 95.4°; not active. April 1st, temp. 99°; active; good appetite. 2d, temp. 98.6°; diarrhœa; not active; eats well. 3d, temp. 96.4°; diarrhœa; eats well; dulness and stupidity apparently due to weakness. 4th, temp. 95°; very weak and stupid; diarrhœa. 5th, temp. 95°; cannot stand alone. 6th, died this morning. Post-mortem[1] (present Drs. Chapin, Cameron, and Freeman and laboratory class, twelve hours after death.): Extreme emacia-

[1] Post mortem and bacteriological work done in the bacteriological laboratory of the Medical College of Ohio.

tion. Lungs and liver showed no evidence of disease; spleen normal in size; kidneys enlarged and congested. The small intestine was carefully removed and thoroughly washed by allowing a stream of water to run through it; when distended with water and held before the gaslight points of pronounced hyperæmia were seen at intervals of a few inches throughout its length. These points were more numerous and better marked in the ileum than elsewhere, and marked the location of follicular ulcers and of Peyer's patches.

Section of the gut showed that Peyer's glands throughout the ileum projected abnormally above the surface of the mucous membrane, and were much injected, one patch, about six inches from the cæcum, was slightly broken down in its centre, apparently a beginning ulceration. Some twelve or fifteen ulcers were found in the small intestine. They were chiefly located in the ileum. These ulcers were clearly defined, circular, deeply injected, about one sixth to one-eighth of an inch in diameter, and situated opposite the mesenteric attachment.

From a plate culture made from the spleen there was obtained a culture of bacillus, which in drop culture and stained cover-glass preparation was morphologically identical with the typhoid bacillus. This bacillus on potato gave a moist colorless growth, covering the whole surface of the potato.

Sections of kidney and spleen were stained and found to contain bacilli which corresponded in size and shape to the typhoid bacilli.

These experiments were begun for the sole purpose of observing the physiological effects of typhoid ptomaines formed in various food-stuffs, and not at all with the idea of producing typhoid fever in animals experimented upon. For this reason a biological examination of the organs of the dead animals was not thought of or attempted till the clinical history of rabbit No. 10 began to indicate that it was suffering from a progressive disease and not alone from the effects of the chemical poison which had been introduced into its stomach.

The rabbit (No. 10) did not show the slightest evidence of ptomaine poisoning. It remained apparently well for four days—during this time being quite active, eating well, and having a normal temperature. On the fifth day it showed evidence of sickness and from this time grew gradually weaker, dying on the tenth day of its sickness and fourteen days after inoculation. The symptoms were: subnormal temperature, gradual emaciation, diarrhœa, failing strength, and dulness. When this clinical history is taken in connection with the post-mortem lesions and biological examination it seems reasonable to conclude that this rabbit died from typhoid fever. The only way to avoid this conclusion is to argue an error in the technique.

In the study of the physiological action of typhoid ptomaines introduced with the cultures, it is quite evident that the early symptoms are all-important, since the symptoms which occurred after the third or fourth day could not have been due to the direct action of chemical poisons introduced with the culture. In the comparison, therefore, of group 3 with groups 1 and 2, it will be necessary to consider only the early symptoms.

The rabbits Nos. 9 and 10, composing group 3, were inoculated wirh cultures in milk. These two histories are, like those in the other groups, strikingly similar. They were apparently well till the third or fourth day, not showing the slightest evidence of ptomaine poisoning.

In comparing the clinical histories of groups No. 1 and 2, with those of group No. 3, the following points are worthy of note:

The stupor, which is the most prominent symptom in groups 1 and 2, is entirely absent in group 3. The fever in group 1 was increased, in group 2 the temperature was subnormal, and in group 3 it was normal. In short, all the early symptoms which characterized the cases in groups 1 and 2 were absent in group 3. These facts would indicate that the typhoid bacillus, when grown in milk, does not produce ptomaines capable of producing either fever or nervous symptoms, and that if the ptomaines thus formed are at all poisonous, they are much less so than those formed in beef peptonoids.

Now, in conclusion, let us note that there are three important propositions to which these histories bear witness:

1st. The bacillus typhosus of Koch and Eberth is the cause of typhoid fever.

2d. The physiological and poisonous properties of the ptomaines formed by this bacillus will depend in great part on the character of the food material in which it is growing.

3d. Milk is the best diet in typhoid fever, since the ptomaines produced in it do not cause either fever or nervous symptoms.

OBSERVATIONS ON INTRA-CRANIAL HEMORRHAGE AND SOFTENING.[1]

BY JAMES HENDRIE LLOYD, M.D.,
VISITING PHYSICIAN TO THE NERVOUS AND INSANE DEPARTMENT OF THE PHILADELPHIA HOSPITAL.

THE very lively interest manifested during the last few years in the pathology and surgery of the brain, has been especially sustained by the success obtained not infrequently in locating lesions in very narrow areas. Much of this success has been due to the work of the experimental physiologists, but a certain proportion of it is also due to accurate clinical observations with subsequent autopsies, which have utilized the experiments which disease has made in the brain, and have often either confirmed the results or even guided the researches of

[1] Read by title at the Annual Meeting of the American Neurological Association, Long Branch, June, 1889.

the laboratories. In these pathological studies comparatively little use has been made of the various lesions made by hemorrhages from and emboli of the encephalic bloodvessels. I say *comparatively* little, considering the large relative number of these cases. The reasons for this are probably several in number. The so-called apoplectic stroke when once declared and recognized does not appear to have further interest for the majority than is involved in the prognosis and duration of the case. Fine points of diagnosis and localization appear superfluous in the case of a man who is, perhaps, stertorous, or who, even if he survives, will probably be hopelessly hemiplegic, even aphasic, for the rest of his life. Again, there is a sameness about the vast majority of these cases which has probably inspired the feeling that there is not much new to be observed in any of them. The drowsy, hemiplegic patient, with distorted face and tongue and conjugate deviation of the eyes and head, presents a clinical picture recognized by all, any slight variations from which are not seen or thought noteworthy. Finally, hemorrhages into the substance of the brain are usually not good localizing lesions; they are apt to commit extensive ravages and to involve much contiguous territory by pressure, so that they often present symptoms which are exceedingly difficult to interpret for even the most expert diagnostician. This is not true to the same extent of emboli, which when lodged in small vessels sometimes give very exact indications of their whereabouts; nor is it always true to the same extent of traumatic meningeal hemorrhages, which may sometimes be successfully localized. With the latter I shall not deal in this paper.

In an experience during the last few months which has been unusually rich in cases of intra-cranial endarteritis, I have endeavored, as far as possible, to apply the principles of localization in the diagnosis, and to observe accurately in the autopsy the position of the lesion. I cannot claim much success; but I have been struck with the fact that when studied attentively this series of sixteen cases presents no two instances very nearly alike; that, in fact, there is much more variety and hence much more of clinical and pathological interest than any person would be led to expect in a series of successive cases happening to one observer. This interest, however, is not altogether in the localizing symptoms, but in some other clinical phenomena, as may be seen.

The enthusiasm which has been excited by recent work in cerebral surgery is, perhaps, shown in no more remarkable way than by the guarded suggestion which some have thrown out, that some cases of cerebral hemorrhage may yet be subject to operative interference. This appears as yet to be little more than a surgical dream, so far as it concerns hemorrhage due to diseased bloodvessels. The damage to the brain-tissue, the deep seat of the lesion, and the advanced deterioration of other vessels than the one which has ruptured, are a few of the conditions which cause this suggestion to appear Utopian in the extreme. It is not my purpose to discuss it at length here. Tapping and drainage of the lateral ventricles, as a mere surgical feat, has been proved to be practicable; but as a successful remedial measure in a brain whose vascular system is in advanced degeneration it must still be of very doubtful propriety. Multiple hemorrhages in the brain are not uncommon; several are recorded in this series of cases, and serve to emphasize the danger and hopelessness of evacuating a blood collection which may be one of several, or the precursor of others.

Extensive Disease of the Intra-cranial Bloodvessel System.

A case of hemorrhage into the pons, which has already been reported in detail elsewhere,[1] was an illustration of the fact just referred to.

The woman had had two intra-cranial hemorrhages, an old one into the lenticular nucleus with the usual hemiplegia, and a recent fatal one into the pons. This case was notable also for the facts that (1) the paralysis was not crossed, *i. e.*, the face and limbs were paralyzed on the same side, owing to the hemorrhage being in the upper part of the pons above the decussation of the facial nerve fibres; (2) to the absence of the contracted pupils and slow respiration which sometimes, in pons hemorrhage, simulate opium poisoning; (3) the late appearance of third nerve involvement, causing double ptosis and external deviation of the eyes; and finally (4) the strictly localized convulsive phenomena in the right arm which the patient exhibited a few days before she died, and which appeared exactly like an epileptoid seizure of focal cortical origin.

In reference to this last observation it may be stated that some have claimed that localized clonic seizures are not always of cortical origin, but may be caused by lesions at a lower level, as in the pons or medulla. This is of importance in diagnosis, because much stress is usually laid upon such local movements for fixing cortical lesions. In the above case the fit was in the sound (unparalyzed) arm, and nothing was observed post-mortem to explain it but the lesion in the pons.

It is common enough to regard a sudden hemiplegia as the first and often the only important and characteristic symptom or result of intra-cranial endarteritis. Nothing could be a greater error than this. Hemiplegia results when a large clot is thrown out and presses upon the descending motor fibres

[1] Reported by Dr. W. R. Wilson, in the University Magazine for June, 1889.

or when large vessels supplying the motor region of the cortex are plugged with a thrombus or embolus.

These accidents (except in the cases of emboli from distant parts) result from precedent disease of the bloodvessels. This disease of the bloodvessels is usually widely extended, involving many other arteries than the one which has ruptured—many arteries even outside of the head. Thus vessels accessible to pressure, as the radials and temporals, are indices of this wide degeneration, and are often found very firm, resisting, and almost like quills. At the base of the brain this arterial decay is often very extensive, and those persons who have examined many brains of hemiplegics must often have been impressed with the truth of the statement that a man's life is only as long as the life of his bloodvessels. It must also appear to them in the highest degree probable, that a brain which has had to depend, perhaps for years, for its nourishment upon such stiff and narrowed tubes cannot have been always in the best working condition, and that it must frequently, even long before the final and fatal break, have given evidence of the progressive decay which was undermining it. These *prehemiplegic* symptoms have not been recognized as fully as they ought to be. They are difficult to identify, and are still more difficult to verify. These symptoms are (1) mental, as loss of memory, sluggish intellectual processes, and inability to concentrate the thoughts: the signs of advancing senility are, no doubt, often due primarily to this cause. (2) Motor, as vertiginous attacks, possibly rarely convulsive phenomena, and conditions of more or less transient paresis. (3) Sensory symptoms, often very characteristic, as numbness or paræsthesia of a part or the whole of a limb, sometimes quite persistent. As this arterial degeneration not unfrequently accompanies kidney disease, it is a question whether some of the so-called uræmic brain-states may not be due to this mechanical cause.

A man prematurely aged at sixty, and whose appearance was that of eighty, had pipe-stem arteries at the wrists, arcus senilis, and the alligator-like skin of advanced old age. His urine was slightly albuminous and contained a very few casts: there was no œdema. He was very dull in mind, sitting about in a dazed condition, doing nothing, and responding very slowly and inadequately to questions. There was no paralysis. But when he slept or even dozed his head and both eyes deviated far to the right, and his right face also was well pulled over, leaving the left flat and smooth. His left arm was less resistant than his right; in fact, he was, while sleeping, in a partial left hemiparesis. When he awoke, this condition gradually passed away. He sank into a comatose state and died. An autopsy was refused. I believe this patient had extensive endarteritis at the base of the brain, causing partial brain-starvation, especially in parts of the right hemisphere, but not advancing to hemorrhage. When he slept the blood-supply was still more diminished, and was especially cut off in the vessels on the right side.

Another patient, aged fifty-six, syphilitic, had a series of intra-cranial hemorrhages within a few months. His first symptom was a gradual hemiparesis. He did not have with these first symptoms any sudden "stroke" or loss of consciousness, but his trouble advanced to complete hemiplegia, with secondary contracture in the limbs. His last and fatal hemorrhage was in another part of his brain, and was more rapid in its effects. He had a violent convulsion with a quick-succeeding coma, and died in a few hours. After this last hemorrhage he had violent muscular contractions, sometimes called post-hemiplegic chorea, which will be referred to again. The autopsy revealed an old hemorrhagic cavity, containing brown fluid, well encapsuled, in the right external capsule and lenticular nucleus. A more recent subarachnoid hemorrhage was found over the occipital lobe on the right side, the brain substance being ploughed up by it in one spot. A similar but slight subarachnoid hemorrhage was found on the right hemisphere of the cerebellum. In addition to all this, the *left* hemisphere contained a great mass of black, tarry blood-clots in a cavity which had been made in the region of the lenticular nucleus, but which had extended far into the interior of the brain, and had broken through into the lateral ventricles. The vessels at the base of the brain were hard and quill-like, some of them containing white fibrinous masses. The gradual onset of the first paretic symptoms is very characteristic of syphilitic cases, and is explained by the gradual occlusion of the vessels. In this case, however, the lesions all appeared due to hemorrhage.

It is notable that this man's brain contained ruptured vessels on both sides. If the last hemorrhage had not been so extensive as to destroy life, he would have been one of those rare cases of *double* hemiplegia which some authors have described. The following case also was a near approach to this condition:

H. F., aged forty, had an old left-sided hemiplegia, with secondary contractures, of nine years' standing. His hemiplegia came on very suddenly without loss of consciousness. He had recovered some power in his left leg and could walk, but his left arm remained very weak. For some months before his death he had been distinctly losing power in his right leg, while his right arm remained normal. The autopsy revealed extensive degeneration of the arterial system at the base of the brain and apoplectic cysts in both lenticular nuclei, which were pigmented and softened—the right side more affected than the left. The intra-cranial arteries had undergone degeneration and rupture on both sides. The patient came the nearest I have yet seen to a double hemiplegia.

Local Asphyxia in the Distribution of Vessels.

The brain is, no doubt, often deprived of its proper blood-supply, and, hence, impaired in its functions, by vascular disease which, however, has not yet produced softening or necrosis of brain-tissue. Thus occasionally a patch, or area, of great paleness is found in the cortex in marked contrast with surrounding tissue.

In the case of a German, aged seventy-two, who died of pneumonia, the comatose condition in which he was when first seen was diagnosticated as due to intra-cranial vascular disease, especially as he had right lateral deviation of the head and eyes, and the left arm and leg were entirely flaccid and non-resistant. The autopsy showed the cerebral cortex supplied by the left anterior cerebral artery to be very pale and bloodless in contrast with the rest of the cortex of both hemispheres. The area of distribution of the anterior cerebral artery was thus beautifully mapped out. This was evidently recent, and was not attended by any necrosis of brain-tissue, nor had there been any symptoms during life to be attributed to it, except that the man's dull mental state was doubtless due to brain-starvation. No embolus was found in the main trunk of the vessel, but all the vessels at the base were much diseased and narrowed, and must have curtailed very much the blood-supply to the brain. A small hemorrhagic cyst, containing brown fluid, was found in the right optic thalamus bordering on the motor tract behind the knee of the internal capsule. It was in exact position to make pressure on the motor tract, but had not destroyed it.

Lesions of the optic thalamus are not common. They are apt to cause anæsthesia by pressure upon the posterior part of the internal capsule, as well as interesting eye-symptoms, such as blindness of the halves of both eyes on the side of the lesion (homonymous hemianopsia).

A Case of Homonymous Hemianopsia.

The occurrence of this condition as an isolated symptom—*i. e.*, without any paralytic or other anæsthetic symptoms—is rare. I have seen it in only one patient.

This man was in perfect health when one morning he was seized with giddiness and a strange feeling in his left leg. He did not lose consciousness or power. Some days afterward he discovered that he could not see to the left. This discovery was made by his almost meeting with several accidents in the street. When examined in the hospital and put to strict tests, nothing could be discovered wrong with him except a complete lateral, or homonymous, hemianopsia—that is to say, the *right* half of each eye was blind; and, consequently, he could not see in the *left* fields of vision.

This symptom is always caused by a lesion behind the chiasm, and is usually attended with other symptoms, depending on the nature and seat of the lesion. If the lesion is in the optic thalamus, pressing upon the capsule, there will likely be hemianæsthesia and perhaps also hemiplegia. The sensory fibres pass down through the capsule behind the motor. There might be a lesion in this region small enough to pick out just the visual fibres, causing no other sensory and no paretic symptoms, but such a thing is extremely improbable. The most probable region for the lesion in this case would be in that part of the cortex, or underlying white substance, which presides over vision—which receives the fibres direct from the retina. That region is probably the cuneus and the end of the occipital lobe. The lesion which could cause such results as in our patient, without other symptoms, and persisting at the end of three months, is an embolus; and while it is hazardous to express a positive opinion on such a fine point, I think this was probably the cause. The occipital lobe affected in our patient was, of course, the right.

Lesions of the Cerebellum.

The relation of lesions of the cerebellum to hemiplegic and other paralytic symptoms is not uniform or always very clear. When only one hemisphere is involved there may be no hemiplegia, or when hemiplegia occurs it is observed sometimes on the side of the lesion and sometimes on the other. Downward pressure on the motor tract in pons or medulla seems to be the most reasonable explanation, but why sensation is not always equally impaired does not appear. It will depend upon whether the downward pressure upon the motor fibres is above or below the decussation in the medulla which side is paralyzed.

In a case of large cyst of the right hemisphere of the cerebellum the hemiplegia was on the same side. This man died of typhoid fever. He had had loss of power in his right arm and leg, with a fine tremor, for three years. This had come on him with the sudden stroke of the usual apoplectic seizure. He had no anæsthesia. The case had been considered in life one of the common instances of lenticular hemorrhage. It was remembered, however, at his autopsy that he had not had paralysis of the face or tongue. The lesion found was a large cyst which occupied the whole upper third of the right hemisphere of the cerebellum. It was in the part supplied by the anterior, or superior, cerebellar artery. This vessel, however, was not occluded or diseased, as far as could be made out. The cyst may have been the result of an old hemorrhage.

Unusual Lesions of the Brain not Accounting for Hemiplegia.

The brain with degenerated vessels sometimes exhibits symptoms which cannot be explained by the *gross* lesions found post-mortem. The most common of these symptoms in my observation has been hemiplegia, which cannot always be ascribed

to the anatomical changes most apparent to the naked eye. This leads to confusion and error sometimes in applying the principles of localization in such cases.

An old woman was admitted in a semi-conscious state with hemiplegia, including the face. The case could not be distinguished from the ordinary. The autopsy revealed arteries at the base extensively diseased, and the brain was very full of venous blood. This venous congestion can probably result from the arterial obstruction. The motor regions were not different from the rest of the organ, but the cortex of the left occipital lobe was much softened, being yellow and creamy. The hemiplegia could not have been the result of the diseased occipital lobe, but it was no doubt the expression of brain starvation, caused by an impeded arterial supply, and probably appearing worse because of the patient's general dull condition. It was, hence, a coincident, not a result, of the necrosis, both being due to a common cause. The disease of the occipital lobe no doubt gave symptoms of its own, among which was probably a lateral hemianopsia, but the patient was too dull for this to be determined. So, too, of another case, in which a quite large area of softening was found in the temporal lobe. This woman had not only hemiplegia, but a rare form of post-hemiplegic motor disorder. The movement consisted of rapidly repeated shocks, very much like those produced by a rapidly interrupted faradic current. They did not resemble choreic movements, and could more properly be called unilateral *myoclonus*. The vessels of the brain were found diseased. The patch of softening involved especially the upper and middle convolutions, parts supplied by the middle cerebral artery; and the branch of that artery going to this region was found occluded with an atheromatous patch. As the middle cerebral artery supplies largely the motor regions, it is possible it was sufficiently diseased to cut off enough blood to impair, but not soften, these regions.

Lesions of the temporal lobe are of especial interest as indicating the cortical area for hearing, but this sense cannot be tested in a patient only partly conscious.

MENINGEAL HEMORRHAGES: SO-CALLED PACHYMENINGITIS HEMORRHAGICA.

Much discussion has been occasioned by the organized blood-clots, usually adherent to the dura mater, sometimes found post-mortem. The question has been, whether these new formations have originated in an inflammation of the dura mater (or other membrane), or whether they are of hemorrhagic origin. Some of these cases, at least, are the results of hemorrhages, which in turn are caused by degenerated bloodvessels, just as the hemorrhages so frequently found in the lenticular nucleus and other interior parts of the brain are produced. I have seen three cases of meningeal hemorrhage in the series of sixteen cases upon which this paper is founded. These were large bleedings, and all proved rapidly fatal, and they were all in brains whose arterial system had undergone, along with other tissue, extensive degeneration. They had one symptom in common—convulsion. If any one of these blood-clots had been very small and thin, it might have been compatible with life; it would then have become organized and adherent to the dura. One of these cases, in fact, did exhibit such a condition to a slight extent, as though the result of a former small hemorrhage. Another of these cases has already been reported;[1] in it a large tumor grew from the under surface of the temporal lobe. The skull had undergone remarkable softening and thickening, and the membranes were degenerated. The hemorrhage occurred on the vault of the hemisphere, remote from the tumor. In the third case—already reported in this paper—the hemorrhage was sub-arachnoid, and one only of several.

THE DIAGNOSIS OF OBSCURE CASES OF CEREBRAL HEMORRHAGE.

It has happened recently to the writer to be called to two fatal cases in which the diagnosis was obscure, but in which intra-cranial hemorrhage was believed to be the cause. In both cases an autopsy was refused.

These patients were women in middle life. They were seized during sleep, and both soon became so profoundly comatose that it was impossible to determine whether or no a hemiplegia was present. One had external strabismus and dilated pupil of the left eye, which would indicate possibly a lesion—as hemorrhage—of the left crus, involving the third nerve.

I refer to these cases because they are especially difficult to diagnosticate from uræmic coma, and this difficulty is, of course, increased if the patient, as in the case of one of these, has albumin and casts in the urine. The presence of albumin and casts, however, does not prove that the patient has uræmic coma, and what is equally important, it does not contraindicate cerebral hemorrhage. In both of these patients there was a total absence of precedent symptoms of kidney disease. In the one whose urine was albuminous the excretion was free, and treatment directed to a possible uræmic element did no good. The temperature was above normal in this patient, which contraindicates uræmia. The duration of these cases, almost a week in both, is also against uræmia.

DR. ORVILLE HORWITZ has been appointed Demonstrator of Surgery in the Jefferson Medical College to succeed Dr. J. Ewing Mears, who has resigned after fifteen years' service.

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[1] Philadelphia Neurological Society Transactions. Medical and Surgical Reporter, July, 1889.

HOSPITAL NOTES.

TÆNIA MEDIA-CANELLATA.

Abstract of Original Lecture Delivered at the Hospital of the University of Pennsylvania, October 10, 1889.

By JAMES TYSON, M.D.,
PROFESSOR OF CLINICAL MEDICINE.

Dr. Tyson showed the class a specimen of an entire tænia media-canellata, or beef tape-worm, removed by treatment from a patient in the University Hospital. He called attention to the fact that this form of the parasite is the one most commonly seen in this country; that it generally has a length of about four yards, with a small head possessing neither snout nor hooklets, but flattened in front and provided with four prominent and powerful suckers. Attention was, also, called to the fact that two other varieties of tape-worm are frequently found in the alimentary canal of man, and are known as the tænia solium, or the pork worm, and the bothriocephalus latus, or the fish worm, as it is sometimes called. The former is very common in Germany, and is sometimes seen in this country; but the latter is much more rare, and is only seen in those countries where the people eat a large number of fish. The distinction between the tænia solium and the tænia media-canellata is marked by the former possessing, in addition to the suckers, a disk of hooklets, by which it attaches itself to the walls of the bowel, and in consequence this species of worm is the most difficult to dislodge. The bothriocephalus latus has an oval head with a slit on each side, and possesses neither hooklets nor suckers.

The treatment in the case which Dr. Tyson showed the class consisted in fasting for twenty-four hours, and in the administration at the end of twelve hours of a saline purge. On the next morning at seven o'clock two drachms of the ethereal extract of male fern were administered, and repeated in two hours. On the same afternoon another saline was given, and the worm was discharged entire.

The lecturer pointed out that failure often resulted because the treatment previous to the final purge had been imperfect. He also recommended very highly kousso in the treatment of tape-worm, and stated that an equally efficient remedy is pomegranate or its derivative, pelleterine. The kousso should be given in an infusion made of four ounces to the pint of water, all of which should be taken. Pelleterine is to be given in the dose of from two to three grains. When pomegranate itself is used, an infusion of the strength of half an ounce to the pint should be employed.

MEDICAL PROGRESS.

Scarlatina and the Puerperal State.—Can a physician who is attending cases of scarlatina take charge, at the same time, of women in labor; and if he does, are the lives of his patients endangered? This is a question of great interest to every general practitioner, since he cannot always, even if he uses the utmost care, avoid contact with scarlatina while in attendance upon labor cases. The various opinions held by medical men upon this important subject are well expressed in the discussion of a series of papers read by Dr. Boxall (*Trans. of London Obstet. Society*).

The opinion has been held by many physicians that scarlatina is especially dangerous to parturients, producing in them a very dangerous form of puerperal fever. Others, however, claim that scarlatina can produce in the parturient only scarlatina, and that the danger to the patient is little, if at all, greater than if she had not been pregnant. Do the scarlatiniform rashes, which appear upon parturient patients, indicate the presence of the scarlatinal poison, or are they simply unusual indications of non-scarlatinal septicæmia? The complete solution of this problem must evidently await more exact knowledge of the nature and cause of scarlatina, and of the peculiar characteristics of the lying-in diseases which are now grouped under the general title of "Puerperal Fever," or "Puerperal Septicæmia." In the discussion, however, some interesting points were developed. It was insisted upon, and with reason, that disinfection against scarlatina before attendance upon a case of labor, ought to embrace something more than routine cleansing of the hands—ought to include as thorough disinfection as possible of the clothing of the practitioner.

The statement was made that, while scarlatina breeds only scarlatina, yet scarlatina *plus* septic matter breeds scarlatina and septicæmia. Therefore, proper disinfection of the person and clothing of the non-parturient patient will prevent, if the physician is free from septic matter, the production of septicæmia in the parturient, although she may have scarlatina.

The suggestion was also made, that septic symptoms occurring in a patient who has acquired scarlatina during labor, may arise from decomposition of her own lochia, or from the absorption of other septic matter by the enfeebled tissues of her genital tract. If this be so, careful irrigation and cleansing of the genital canal whenever decomposition of the discharges occurs, and under other proper circumstances, would probably ward off sepsis, and limit the disease to scarlatinal fever.

One fact, which forcibly suggests that scarlatina does not of itself produce puerperal septicæmia, is, that in certain cited epidemics of scarlatina, of a very malignant form, there has been no increase of puerperal fever.

If it is true that scarlatina breeds only scarlatina, and that septic symptoms in its course, arise from a second infection of the parturient with septic matter, then it is probable that the physician may attend scarlatinal and labor cases at the same time, with comparative safety, if he practises and enforces the well-known laws of asepsis and antisepsis. Further knowledge and experience are needed before these important points can be decided.

Oxygen Inhalation.—The opinions held among medical men concerning the therapeutic value of inhalations of pure oxygen, are so various that any careful observations upon the subject are worthy of attention. In the *Practitioner* (August, 1889) Dr. Thompson discusses the subject from a theoretical point of view, and gives also the result of experiments upon animals and of observations upon patients.

From experiment, and from consideration of the laws of physics as they bear upon the absorption of oxygen by the blood, it is quite evident that if an animal in a state of perfect health is made to breathe pure oxygen at the pressure under which this gas exists in the atmos-

phere, but very little more oxygen will be taken into the blood than if it breathed common air. In order to make any considerable amount enter the blood above that which is usually absorbed by it, a degree of pressure is necessary which causes mechanical interference with circulation and respiration.

The old idea that animals cannot live in an atmosphere of pure oxygen is erroneous. As might be expected from the foregoing statements, it is now proven that animals can live for many hours in pure oxygen, under ordinary atmospheric pressure, without any symptoms or appreciable change, provided the CO_2 exhaled and the nitrogenous waste products of the body be removed. The vague and inconstant sensations, experienced by healthy persons who inhale pure oxygen freely, may be due to impurities contained in it.

Practically, Dr. Thompson has found the inhalation of oxygen valuable in many cases. In *anæmia* and *chlorosis* he has derived no decided benefit from it. In *malignant diphtheria*, with rapid respiration, subjective dyspnœa, and cyanosis, relief was afforded only to the subjective dyspnœa, the cyanosis remaining the same, and the patient dying from pulmonary œdema and heart-failure. In a case of *illumination-gas poisoning*, with persistent unconsciousness and subsequent pneumonia, the continuous inhalation of oxygen had no effect whatever, either upon the breathing or upon the cyanosis which occurred during several attacks of pulmonary œdema.

In a case of *malignant endocarditis*, with extensive valvular disease and dilatation, oxygen failed to relieve the dyspnœa, either before or after obstruction occurred in the lungs. In *pneumonia*, with rapid breathing, dyspnœa, and cyanosis, he has often found oxygen of very great value. The dyspnœa may diminish while the cyanosis quickly vanishes, and the respiration becomes slower and more natural. So also in *capillary bronchitis* and *asthma*, especially when it is accompanied by much bronchial secretion. In *uræmic dyspnœa* he has found it of great use. In one such case, with normal lungs and very intense dyspnœa, lasting for three days, each inhalation of oxygen was followed in fifteen minutes by slowing and quieting of the breathing, slight improvement in the cyanosis, and great increase of comfort to the patient. Upon stopping the inhalation the dyspnœa always returned.

A bibliography of the subject is appended to the article.

The Dissemination of Tuberculosis.—The experiments of DR. CORNET, in the Hygienic Institute of Berlin, under the auspices of Professor Koch, have been frequently alluded to in THE NEWS, and are, indeed, so well known by the profession in general as to need no repetition. Being a Bavarian by birth, Cornet some time back sent a copy of his publications to the Bavarian Government, with the request that they test the correctness of his views. Although it was not to be expected that they should undertake an extended inquiry at the dictate of a private individual, the *Medical Press and Circular* of October 2d states they handed the articles to the Upper Board of Health. The referee on this occasion, Professor Bollinger, has decided to enter on an investigation as regards prisons.

It is notorious that a great number of prisoners, nearly one-third, die of phthisis, and Professor Bollinger has determined that they shall not die of phthisis contracted within the prison walls, if Koch's views on the etiology of the disease are correct. For the future, all cells are to be disinfected as thoroughly after occupation by phthisical patients as after cholera or smallpox. Further than this, all prisoners already phthisical, or suspected of being so, are to be removed. All the sputum is to be disposed of in the way recommended by Dr. Cornet.

The Treatment of Lupus by the Application of Ice.—DR. KLAUS HAUSSEN, in the *Centralblatt für Chirurgie*, for September 7th, reports two cases of lupus, one of the lower lip and the other of the chin, both of which had been subjected to various modes of treatment, such as cauterization, the use of the galvano-cautery, scraping, etc. In spite of this treatment healing did not occur, and the disease continued to spread. In both cases the parts affected were most sensitive, and even the application of iodoform powder caused long-continued pain, which the use of cocaine solution was unable to mitigate. Haussen scraped the parts again, and treated the disease by applications of ice. The extreme sensitiveness speedily disappeared, and in the course of a few weeks both cases were entirely cured.

Reduction of Hernia during Coughing.—It is an undoubted fact that coughing will produce or bring down a hernia; it is therefore somewhat surprising to hear that coughing may be useful in the reduction of such a displacement. M. VANDENABEELE, however, has frequently found that herniæ which had resisted attempts at reduction by taxis alone, yielded when the patient was directed to cough during the manual effort of compressing the sac. M. Vandenabeele's observations included both inguinal and femoral herniæ, and were not confined to either sex. He believes that during the act of coughing the hernial ring dilates somewhat, and that if well-directed taxis is employed at the right moment most cases will yield.—*Lancet*, October 5, 1889.

Echophotomy.—PROFESSOR QUINCKE, of Kiel, has been recently devoting himself to a careful scrutiny of producing colors by different sounds. When a trumpet is loudly sounded at the ear of a sensitive patient, he will immediately after define the first color he sees as yellow which he formerly recognized in its proper hue. A vocal sound A will give the impression of black, while the vocal sound O conveys the sensation of red. This phenomenon is analogous to the radiating pain of toothache, the shoulder pain in case of hepatic affections, etc., being peripheral excitement transported to another path on its way to the reflecting centre where it is received as a true impression. This observation may be of considerable value in elucidating many cases of color-blindness or perverted vision.—*Medical Press and Circular*, October 2, 1889.

Colored Spectacles.—DR. KÖNIGSTEIN, of Vienna, while giving directions to his class on the uses and prescribing of spectacles, said that green glasses as a protection against strong rays were worse than useless, and did more harm to a sensitive eye than good, as they allowed the yellow rays to be transmitted and unnecessarily irritated the eye. As a protection against strong rays the blue or

smoked glasses were the only real protection. The blue should be light, as a deep blue color produces a clear violet disk in the centre of the lens which apparently corresponds to the fovea centralis, and by a protracted use of dark blue spectacles the patient may become annoyed by the mosaic work of the fundus of the eye appearing before him. The phenomenon seems to be connected with the pigmentary changes in the macula lutea. —*Medical Press and Circular*, October 2, 1889.

Sulphonal in Night-sweats.—Dr. Boettrich, in the *Medical Press and Circular* of October 2, 1889, relates the case of a lady suffering from profuse night-sweats and sleeplessness. He prescribed seven grains of sulphonal, after which the sweating was quickly arrested. On further investigation he found that the drug in this direction is as powerful as atropine, and free from its toxic effects, whilst its influence in suppressing the perspiration lasts longer.

Treatment of Pruritus.—Norman Porritt, in the *British Medical Journal* of July 27, 1889, recommends the employment of a cone of cacao butter, impregnated with two per cent. of cocaine, in the treatment of pruritus and irritable skin. This is rubbed over the part affected. The warmth of the skin melts off a layer of cacao butter, which forms a soothing emollient shield over the irritable patch. The remedy has been put up in the form of cones, inclosed in boxwood cases with screw tops, something after the manner of menthol cones. In irritable affections of the skin, in cases of insect bite, in pruritus, and various forms of hyperæsthesia, the remedy is worthy of a trial, and its use has distinct advantages over the more usual applications.—*Journal of Cutaneous and Genito-urinary Diseases*, October, 1889.

Intestinal Obstruction.—In the *Archives of Surgery* for July, 1889, Mr. Jonathan Hutchinson details the principles which guide him in the treatment of suspected acute intestinal obstruction, from whatever cause. He believes that in all cases in which obstruction is recognized, whether the symptoms are severe or mild, one of the first measures adopted should be the administration of an anæsthetic, under the full influence of which, intestinal spasm will be relaxed, and the passage of scybalæ, gall-stones, or other impediments favored. While anæsthetized, the patient's abdomen should be carefully examined by the surgeon, who should also use enemata, and practise abdominal taxis. An accurate diagnosis of the cause of obstruction is not often possible, and the early use of anæsthesia and taxis is successful in many cases, whatever the causation, and prejudicial to but few. If these measures fail, and the symptoms increase after anæsthesia, exploratory laparotomy should be resorted to.

Intussusception in infants under one year should be treated wholly by taxis and enemata, as the prospect of recovery after abdominal section at this age is exceedingly slight. In older children, laparotomy is probably the best treatment. If the diagnosis is plugging of the gut by a gall-stone, belladonna should be freely administered, and if pain is severe, prolonged anæsthesia; also systematic efforts should be made to force enemata beyond the ileo-cæcal valve. Under no circumstances does this latter condition justify an operation, as with the above measures the probabilities of recovery are great. In cases of long duration, either the "rest, opium, and starvation plan," feeding entirely by the rectum, or repeated recourse to taxis and large enemata, should be adopted.

Mr. Hutchinson describes his method of taxis thus: Under full anæsthesia, the bladder and bowels being empty, the surgeon forcibly and repeatedly kneads the patient's abdomen, pressing its contents in all directions. The patient is then turned on his abdomen, upheld by four strong men, and vigorously shaken. Following this, he is supported by the feet, copious enemata given, and, while still in this position, vigorously shaken upward and downward. The latter, Mr. Hutchinson considers exceedingly important. However rough such treatment may seem, it is in no sense unscientific, but thoroughly rational, and its efficacy is attested by the reports of Mr. Hutchinson's cases.

Potato Poisoning.—The *Journal de Médecine et de Chirurgie Pratiques* for August, 1889, recounts the symptoms noted in one hundred men after eating the young sprouts of potatoes. The symptoms were those of gastro-intestinal irritation, with dilated pupils, sweating, disturbed vision, and vertigo. In most cases the illness lasted five days, but in none was there a fatal result.—*Therapeutic Gazette*, October 15, 1889.

[It seems not improbable that many unexplained cases of diarrhœa, cholera morbus, etc., are due to carelessness in the preservation of potatoes, as the young sprouts almost invariably contain solanine, a poisonous alkaloid.—Ed.]

Intestinal Obstruction from Impacted Feces.—At a recent meeting of the Surgical Section of the Royal Academy of Medicine in Ireland, Mr. W. Thornley Stoker read a paper on "Intestinal Obstruction," in the treatment of which his views closely coincided with those of Mr. Hutchinson, as abstracted above. Mr. Stoker dealt chiefly with the treatment of those cases where the obstruction was owing to the paralyzed condition of the bowel from the accumulation of feces or flatus. In this class of cases a lumbar operation was rarely indicated, and, owing to the extreme meteorism, laparotomy was usually a fatal proceeding. He urged the adoption of other measures previous to any precipitate opening of the abdomen, advocating the employment of pressure and massage, and the judicious use of purgatives. Of these latter remedies he considered undue fear existed. Of belladonna, when pressed to its full effect, he spoke highly, and quoted cases in evidence. Local treatment by rubefacients he disapproved of, as he did also of opium, which he regarded as masking symptoms, and doing little or no good. Tapping the bowel with an aspirator needle or fine trocar he had found of great use where much tympanites existed. The "long tube" he considered a dangerous and useless piece of apparatus.—*British Medical Journal*, October 5, 1889.

The Treatment of Varicose Veins.—For the radical cure of varicose veins Dr. C. H. Y. Godwin recommends the intravenous injection of pure carbolic acid, a method he has used for many years. Previously to the injection the skin is washed, and kept moist for some hours with a 1 in 20 carbolic solution. The patient is then directed to stand, and while in that position an Esmarch tube is tightly fastened around the thigh. On lying down the

veins will remain distended, when a number of injections are made into the most prominent places, each injection not exceeding half a minim. A firm clot forms in a few moments, but the tourniquet should be allowed to remain in place for ten or fifteen minutes longer. The only dressing required is a light, dry, antiseptic pad; the patient should remain in bed for a week. In choosing cases for this treatment a large cluster of varices is more satisfactory than a single dilated vein. In his long experience with the method Dr. Godwin has met with no accident, the results invariably being satisfactory.—*British Medical Journal*, October 5, 1889.

Various Methods of Treating Psoriasis.—The *Medical Chronicle*, October, 1889, in reviewing several of the more usual external and internal measures for the treatment of psoriasis, says:

Most authorities prefer arsenic to any other internal remedy. It may be given in the form of pills or as Fowler's solution, either in the ordinary way or hypodermically, when filtered or combined with an antiseptic. Tar water, carbolic acid, turpentine, copaiba, phosphorus, and even cantharides are spoken of as remedies. BULKLEY (*New York Medical Journal*, July, 1889) says that alkalies are often beneficial. "The best form to give them in is acetate of potassium, lithium, or calcium." Iron and cod-liver oil he finds useful. Oils and fats if digested, pure woollen clothing next the skin, and a warm equable climate he considers important factors in treatment. GUTTELING (*Weekbl. van het Nederl. Tijdsch voor Geenesk*, No. 17, 1889, abstracted in *Wiener med. Blätter*) reports on the results of treating 22 cases of psoriasis vulgaris with large quantities of iodide of potassium. The remedy was given frequently and the doses gradually increased. Five cases were completely cured; in 5 the iodide had to be abandoned. There was a decided improvement in the 12 cases remaining. The largest quantity given in one day was 57 grammes (about 14 drachms), and the largest amount taken during the whole course of treatment by a single patient was 3684 grammes (about 7 pounds). Several patients gained weight whilst taking enormous doses of the iodide, whereas only a few of them had acne or iodic purpura. The drug is said to be especially beneficial in recent cases. Daily doses of from 10 to 20 grammes (about 2½ to 5 drachms) are recommended. If, owing to failure, large doses have to be resorted to, the improvement will be incomplete. In the five cases which were completely cured, the course varied from fourteen days to four and one-half months. BARDUZZI (abst. *Brit. Journ. Dermat.*, from *Gazetta d. Ospitali*, 17, 1889) confirms the good results obtained by Dutchmen: "In three diffuse universal cases of very inveterate character, which had been treated with transient success by all the usual remedies, he obtained results from iodide of potassium which he never hoped for. In none of his cases was the amount of the drug larger than 7 grammes (105 grains) daily."

According to Bulkley, visits to mineral springs reputed to cure psoriasis lead only to disappointment. "He did not know of a single cure effected by sulphur waters, though the reputation of such waters was the highest of any." With regard to external applications, the treatment should vary with the cases. Bulkley has abandoned the use of chrysarobin, antharobin, and pyrogallol, because he has found that white precipitate ointment answers better than these preparations. BESNIER (abst. *Brit. Journ. Dermat.*) has recently recommended β-naphthol. He rubs in this ointment—β-naphthol 10, adipis 90—every evening. In the morning the ointment is washed off with warm water and soap, and the skin is powdered with starch. According to Kaposi, who introduced β-naphthol into practice some years ago, the fifteen per cent. ointment, which he prescribes, is a valuable application for the hands, face, and scalp, inasmuch as it does not discolor the skin or the hair. Bulkley believes that local applications used early prevent the development of the eruption. There is no doubt that treatment is most successful when the eruption is fading, and least so when the eruption is coming out, the spots rapidly extending and the exfoliation very great.

The Influence of Olive Oil on Biliary Secretion.—The usefulness of olive oil in hepatic colic seems to be substantiated by the recent experiments of ROSENBERG, who, in dogs with permanent biliary fistulæ, finds that large doses of olive oil greatly increase the flow of bile, and decrease the specific gravity. (*Therapeutische Monatshefte*, September, 1889.) If further experiments prove the accuracy of the statements that olive oil assists the passage of calculi, not, as maintained by the supporters of the treatment, as a lubricant, but by increasing the secretion of bile and washing out the gall-stones it will probably be widely adopted if the patients do not object to the dose.

The Treatment of Erysipelas.—The treatment of erysipelas by the external application of germicides is certainly growing in favor. Carbolic acid, though used to some extent, has the disadvantage of being in itself an irritant if in sufficient strength to modify the disease. Creolin, which is undoubtedly a powerful germicide, is used by DR. KOCH, of Vienna, for this purpose. His formula is: one part of creolin, four of iodoform, and ten of lanolin. This is spread not only upon the erysipelatous area, but for an inch or more beyond its boundaries. To prevent rubbing off and to assist in absorption the whole is covered with thin gutta-percha paper. Dr. Koch believes that the iodine, which is set free in the combination, is, as well as the creolin, an important agent. However this may be, the results are apparently good, and the method is worthy of careful trial.—*Therapeutische Monatshefte*, September, 1889.

Prescription for Psoriasis.—The favorite prescription of MR. JONATHAN HUTCHINSON for psoriasis is:

℞.—Acid. chrysophanic. . . . . gr. x.
Liq. carbonis deterg. (Wright's) . ♏ x.
Hydr. amm. chlorid. . . . gr. x.
Adip. benzoat. . . . . ℥j.
Misce fiat unguent.

At night the patient should wash the diseased surfaces free from all scales, then standing before a fire rub on the ointment, devoting, if possible, half an hour to the operation. This proportion of chrysophanic acid is not irritating, and stains the linen but slightly. With some cases even a weaker chrysophanic ointment is entirely sufficient. Internally, Mr. Hutchinson prescribes arsenic, though he is not convinced that it is an important adjunct.—*Archives of Surgery*, July, 1889.

Use of Pilocarpine Hypodermatically in Tobacco and Alcoholic Amblyopia.—Huel and Leptat, in the *Annales d'oculistique* for March and April, 1889, speak very highly of the employment of pilocarpine subcutaneously in the treatment of the blindness or failure of vision seen in persons who use alcohol to excess. They state that the first injection naturally brings on a profuse sweat and salivation, and the vision becomes better at once and remains improved if no more of the drugs are used. In two cases with retro-bulbar neuritis with central scotomata for red, resulting from the abuse of alcohol and tobacco, pilocarpine produced a cure.

Staderini, who has used pilocarpine in the treatment of the eye, has arrived at the following conclusions:

First. Subcutaneous injections of pilocarpine are of value in most of the inflammations of the eye, particularly those occurring as a consequence of rheumatism, iritis, episcleritis, and inflammation of the optic nerve.

Second. They are valuable in combating those inflammations of the iris and ciliary bodies which are apt to follow the extraction of cataract, and they facilitate the absorption of exudates.

Third. In cases where opacities of a non-organic character occur in the vitreous humor, or in those resulting through infiltration, pilocarpine acts most favorably.

Fourth. In those forms of progressive myopia in which there is involvement of the retina, great amelioration is also brought about by the drug.

Fifth. It can be employed advantageously in certain forms of amblyopia and amaurosis, which are dependent, in all probability, upon disorder of the circulation with a serous transudation into the sensitive nerve centres.

Powder for Papular Erythema.—The following powder is recommended by Besnier, in *L'Union Médicale*, for the treatment of papular erythema:

℞.—Powdered boric acid . . . ʒss to ʒj.
Chalk
Oxide of zinc } . . . āā ʒiij.
Powdered starch

This is to be dusted over the part. If the irritation is intense, a mild solution of boric acid is first to be applied and followed by the powder.

The Treatment of Phlebitis.—In *L'Union Médicale* for September 26, 1889, Muselier recommends the following treatment for phlebitis:

In cases of simple phlebitis, leeches should be applied and unctions of mercurial or opium ointment thoroughly rubbed in. Local baths are to be used if the inflammation involves an extremity. If the vein suppurates, free drainage is at once to be established, it being remembered that in spontaneous phlebitis the danger resides in the possibility of embolism. To prevent so grave an accident, the limbs should be placed in cushions and elevated in such a manner as to favor the venous circulation toward the trunk and the disappearance of œdema. Fixation is also a necessary accompaniment of the treatment, and all abrupt movements are to be avoided lest embolism should occur, and even in the application of mercurial ointment violent rubbing should be avoided for fear it may dislodge a clot. If the phlebitis is of long duration and there is much œdema of the limb, it may be well to apply an Esmarch bandage, and if, as a result of this compression, atrophy of the muscles occur, recourse must be had to electrical currents, massage, and baths.

The Antiseptic Treatment of Abscess.—The following method, given in the *Revue Générale de Clinique et de Thérapeutique* for October 10, 1889, as practised by Championnière, while it contains nothing unusual, may be practically useful. Before the operation, the region involved is washed with a solution of carbolic acid, made up as follows:

℞.—Carbolic acid . . . . 750 grains.
Glycerine . . . . . 900 grains.
Boiled water . . . . 1 quart.

The bistoury is rendered aseptic by immersion in carbolized water, and, after the abscess is incised, its cavity is washed out with an antiseptic solution until the liquid returns perfectly clear. If the size of the abscess be large, a rubber drainage-tube is inserted, which is rendered antiseptic and contains a little cotton fibre, which is thoroughly soaked previously in the following mixture:

℞.—Glycerine
Crystalline carbolic acid } . āā 375 grains.
Boiled water . . . . . 1 quart.

The position where the abscess occurred is now covered by a piece of rubber cloth over which is placed a bandage. Twenty-four hours later the wound is washed out a second time with the same solution as was previously employed, the drainage tube being replaced or left out according to the condition of the wound.

Successful Operation for Ankylosis of Jaw.—In the *Glasgow Medical Journal* for September, 1889, Mr. Campbell describes a successful operation for ankylosis of the jaw—a condition which is frequently so unmanageable. The case in question resulted from an injury many years previously. After unsuccessful efforts at separating the jaws by wedges and screw-gags, an incision was made on the right side extending from a point a little external to the margin of the orbit, downward and backward, parallel to the lower border of the zygomatic arch for a short distance, then directly downward over the ramus of the jaw for about an inch; the temporal artery was thus avoided. On clearing the soft parts from the bone, there was no demarcation between the jaw and the temporal bone; the zygomatic arch, the condyle and the coronoid process were all fixed together. The posterior border of the ramus having been defined, the parts representing the condyle and the coronoid process were chipped away with a chisel until a gap of about one-quarter inch was left between the skull and the ramus of the jaw. The jaws could now be forced apart to the extent of an inch. Passive and active movements were allowed on the third day, and three months after the operation the patient could eat solid food of any kind, the interval between the jaws being then about an inch.—*The Birmingham Medical Review*, October, 1889.

Gymnastics in Diabetes.—Dr. Aye reports three cases of diabetes in the *Berliner klinische Wochenschrift*, in which gymnastics played by no means an inconsiderable part

in the treatment. The first patient was a rather stout woman, æt. forty-three, who had suffered from the disease for a year and a half. The proportion of sugar was 9 per cent., and during a "cure" at Carlsbad it was reduced to 1 per cent. Thirst was only moderate, oppression in the head diminished, tremblings became less frequent, pain in back and debility disappeared completely. The patient could run without great fatigue, but the weakness of thought was not much improved. At the end of March the patient expressed herself improved in every way. The results were much better in two other cases; in one of them, in fact, the cure was complete. The author pleads for a trial of gymnastic treatment, although not equal perhaps to walking, or especially to mountain-climbing, it, in his opinion, deserves a place as a therapeutic measure, especially as in the two former the dosage cannot be so exactly measured as in the exercise he advocates. It has another advantage in being admissible in weak cases, and will no doubt form a useful adjunct to the other recognized methods of treatment.—*The Medical Press*, October 9, 1889.

Treatment of Ingrowing Toenail Without Operation.—DR. HOFMANN, of Erlangen, recommends a simple and painless method of treating this complaint. After the part is thoroughly cleansed and disinfected by sublimate solutions, a few drops of perchloride of iron are dropped on the affected spot. The edge of the nail is then gently raised and dried. This is repeated on the second and third day. If suppuration takes place, the hardened scabs are to be removed with forceps, and the perchloride again applied. The nail soon becomes soft and brittle so that it can be easily removed, and without pain.—*The Medical Press*, October 9, 1889.

Massage as an Aid to Intestinal Absorption.—MR. SYMONS ECCLES, in the *Practitioner*, seems to have conclusively proved the value of both local and general massage in hastening the absorption of the intestinal contents. To determine this he made use of Ewald's test, administering salol to fifty different individuals and noting the time of its first appearance in the urine. Later, to the same series of cases, salol was given and followed for fifteen minutes by abdominal massage, which considerably reduced the time elapsing between the ingestion of salol and its detection in the urine. Again, the patients received both general and abdominal massage for several successive days before the salol tests were repeated, when it was found that absorption was still more active. In two cases of tropical diarrhœa, after a few weeks of general massage, salol appeared in the urine thirty minutes after ingestion, whereas at the beginning of treatment two and a half hours elapsed. Mr. Eccles has also had most excellent results in the treatment of chronic dysentery by massage, muscular atony of the stomach and intestines, and various forms of cachexia, in which the gastro-intestinal tract has suffered. In some of these cases the salol test verified and confirmed the results attributed to massage.

Suggestive Therapeutics.—BINSWANGER in the *Therapeutische Monatschrift, Hefte*, iii., 1, 2, 3, 4, 1889, warns against the inconsiderate and incautious employment of hypnotism. He says that hypnotism under all circumstances has a disturbing effect upon the mental condition, and that subjects of experiment are always transiently hysterical, that the results in different individuals cannot be predicted, and that unfavorable results may follow. He further says that in severe hysteria is the chief ground for suggestive treatment, where the hypnotic suggestion is the most effective and the least dangerous. When other methods are available for cure hypnotism is not needed, and in hysteria minor it should be kept in mind that the possibility of a transition into hysteria major cannot be excluded in the use of hypnotism.—*American Journal of Insanity*, October, 1889.

The Subcutaneous Administration of Mercury.—DR. CHERNOGUBOFF has made a number of observations in the Miasnitski Hospital, in Moscow, in regard to the subcutaneous injections of the yellow oxide of mercury in connection with the treatment of syphilis, and has come to the following conclusions: Two-grain doses cause a quicker disappearance of all symptoms than smaller doses, reducing in ninety-two per cent. of cases the necessity for professional visits to one or two. In fresh cases an interval of ten or eleven days between the injections is sufficient to prevent salivation, but old cases require a longer interval. The injection should be made into the cellular tissue, and not into the muscles, to avoid the great pain in the case of the latter, and the frequent occurrence of abscesses. The treatment is said to cut short all symptoms, both when the disease is progressing and when it is on the decline; new spots, especially on the mucous membrane, are very rare. In tertiary syphilis, according to Dr. Chernoguboff, early gummata, and those which are breaking down, quickly disappear under the treatment; but, in impetigo and rupia, iodide of potassium is often required in addition. Local applications do not usually accelerate a cure, except in sore-throat with papular infiltration of the tonsils, which requires heroic treatment. Relapse occurs as in other methods after two or four months. Men and women equally bear well large doses; children from twelve to fourteen years require one grain only. The treatment is contraindicated in severe anæmia which has not been caused by the specific disease, in general exhaustion, undoubted alcoholism, chronic inflammation of parenchymatous organs, and in extensive dental caries; pregnancy is not a contraindication. Mercury is found in the urine in from four to eight hours after the injection.—*The Lancet*, October 12, 1889.

Bromoform in Whooping-cough.—To the already interminable list of remedies for pertussis has been added another, which, according to a DR. STEPP, is superior to any yet proposed. Bromoform is a clear, colorless liquid resembling chloroform, but having a density double the latter. The odor is agreeable, and the taste slightly sweet. Dr. Stepp tried it in seventy cases, with the greatest success upon children from six months to seven years. At the end of a few days the fits diminished, and in three weeks the patient was well. The following would be a convenient form of administering it:

℞.—Bromoform	♏ x.
Alcohol	ʒ j.
Syrup	ʒ ss.
Water	ʒ iij.—M.

A teaspoonful every hour.—*The Medical Press and Circular*, October 9, 1889.

The Medical News.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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SATURDAY, OCTOBER 26, 1889.

THE TREATMENT OF RACHITIS WITH PHOSPHORUS.

THE essential morbid change in rickets is softening of the bones and their consequent deformity. Histologically the process cannot be stated so positively, but the researches of Kassowitz seem to prove that increased vascularization of the osteogenetic tissues is the causation of the removal and non-deposit of the mineral salts. It is a long-recognized pathological law that lime salts are more readily deposited in tissues of slight vascularity than in those with an abundant blood-supply. Whatever the histological cause may be, the gross anatomical appearances naturally suggest the search for some drug whose tendency is to produce a deposit of lime, hence the administration of the calcium salts.

In 1872 Wegner, studying the physiological action of phosphorus on animals, noted that after its continuous administration the bones were much more dense, in some instances the cancellous tissue and medullary canal being entirely obliterated. These effects have been confirmed by other observers, and denied only by Kissel, of St. Petersburg, whose observations are open to criticism.

Wegner's observations led to the logical deduction that phosphorus would be found a valuable drug in rickets; a brilliant example of the utility of experimental therapeutics and a knowledge of pathology, for the clinical studies of Kassowitz, Friese, Jacobi, Montmolli, Hartwitz, Hochsinger, and, recently, of Anna Schabanowa, have confirmed the opinion of Wegner.

In the *Therapeutische Monatshefte* (abstracted in detail from *Jahrbuch f. Kinderheilkunde und physische Erziehung*), Anna Schabanowa analyzes the results of the phosphorus treatment of rickets in 105 children, varying in age from one month to five years. The phosphorus was administered after the method of Kassowitz, in almond oil, or in cod-liver oil, in doses of $\frac{1}{120}$ of a grain. The solution in cod-liver oil she found, as a rule, better tolerated. With this internal medication were combined salt-baths, as far as possible nourishing diet, and the usual hygienic measures. In 6 cases the results were brilliant, in 32 good, in 39 fairly good, in 22 poor, and in 6 the rachitic symptoms were aggravated; or, approximately, 75 per cent. of the cases were more or less improved. With most patients the body weight and size increased; in from three to six months the open sutures were decreased in size, the eruption of tardy teeth hastened, the circumference of the chest increased, the costo-cartilaginous swellings subsided, and the fontanelles closed. Particularly marked were the effects upon the nervous manifestations, laryngeal spasm, general convulsions, and hyperæsthesia; the sleeplessness and irritability disappearing in nearly all cases. In one case nocturnal enuresis was relieved. On digestion the effects were very beneficial, dyspepsia, constipation, and meteorism vanishing.

Allowing for the enthusiasm of the author, these results give important testimony as to the value of phosphorus in rachitis. The criticism may be made that the cod-liver oil, in which the phosphorus was usually administered, may have been the potent agent. Doubtless it played an important part; but such effects could never have been obtained with cod-liver oil alone, even under circumstances most favorable to hygiene; and Schabanowa's cases were mostly seen in dispensary practice.

With the steadily accumulating evidence at hand, it can be said that phosphorus has reached a permanent place in the therapeutics of rickets; but it should never be forgotten that there is no specific for this disease, and that all drugs are of secondary importance to the general and dietetic management of each individual case.

Phosphorus should be administered in small doses in an oily solution or emulsion. The possibility of fatty degeneration of the liver, as pointed out by Wegner, should not be forgotten; and Hartwig,

fearing this, advises occasional withholding of the drug to avoid danger. We believe no case has as yet been reported in which ordinary therapeutic doses caused degeneration, but, nevertheless, it may be well to bear such a possibility in mind when administering the drug for any great length of time.

SCROFULOUS GLANDS.

UNTIL comparatively recent years no medical term has been used more loosely, none conveyed less distinct conceptions than *scrofula*. It was alike applied to hereditary syphilis, to new formations, cutaneous diseases, and to most wasting diseases of children and adults, as it is yet in popular usage. Gradually it emerged from the maze of confused ideas surrounding it, and at the present day has come to signify a condition of the organism, rather than a distinct disease; a condition stamping characteristic marks on associated diseases, and with predispositions peculiar to itself, the most marked of which is excessive cell-proliferation. That this condition is a histological deviation seems most probable, and while Formad's assertion that scrofulous tissues contain an excess of lymphoid cells crowding the lymph spaces, has not been indisputably proven, it offers a satisfactory explanation of many otherwise inexplicable phenomena in the strumous. Though the relationship between scrofula and tuberculosis cannot be considered determined, caseated lymphatic glands, frequently the only manifestation of scrofula, are almost invariably tubercular, a menace to their possessor, and in consequence should be done away with.

The basis of treatment since the days of Lugol has been iodine in its various compounds, externally and internally, the syrup of the iodide of iron being the favorite. Mr. Frederick Treves, *Lancet*, September 21, 1889, in discussing the treatment of scrofulous glands enters a strong protest against the indiscriminate use of this preparation, believing it valueless and ranking it with the "royal touch" of history. From the sulphide of calcium he has seen no better effects. This is probably too sweeping a statement, though the syrup is much relied upon as a specific, and with so blind a faith in its potency, that other and more important details of treatment are lost sight of and neglected. Hygienic measures, good diet, and sea air are of vastly more use to the strumous than drugs, particularly drugs so prone to interfere with digestion as the iodide of iron. In local treatment Mr. Treves insists upon the necessity of seeking the peripheral irritant, which always exists, perhaps in a carious tooth, a chronic tonsillitis, ozæna, or eczema. Too much stress cannot be laid upon this much neglected point, for the cure of a lymphadenitis, simple or scrofulous, is hopeless if the area drained by the efferent vessels remains diseased. The time-honored local applications Mr. Treves entirely discards, believing that ointments are productive of good solely by virtue of friction, and that tincture of iodine increases the glandular irritation. Absolute rest of the parts involved he considers of great importance, and to secure this in the neck he advises the wooden collar of Mr. W. Knight Treves.

In 1882 Treves, to destroy these caseous deposits, used the cautery puncture. This he has since abandoned except as the best means of evacuating fluid accumulations, though for what reason it is superior to the knife he does not make clear. Whenever possible he excises the glands in their entirety, avoiding tearing of the tissues and endeavoring to secure primary union. Scraping with Volkmann's spoon is admissible in sinuses and old cavities, but not as a means of removing deposits. Mr. Treves has devoted so much careful work and thought to glandular disease, that his opinions may be considered as reflecting the most advanced opinions upon the subject.

EXPERIMENTAL STUDIES IN THE ETIOLOGY OF TYPHOID FEVER.

THE undoubted success which has attended the administration of intestinal antiseptics in typhoid fever proves the possibility of a favorable modification of the soil in which flourishes the germ of that disease. We are as yet ignorant of the conditions which render this soil arid in one case and fertile in another, but recognize their existence whenever we use the word "predisposition." The soil or culture medium referred to, is composed of the intestinal secretions and the débris of the food—the slag, so to speak, from which the nutritious ore has been extracted. It is evident, therefore, that the soil may be favorably modified in two ways: first, by antiseptics of approved value, such as thymol, naphthalin, carbolic acid, etc.; and, secondly, by a carefully selected diet. In the order of relative importance the latter indication should precede the former, but the humiliating fact must be recognized that our knowledge of diet is less than that of drugs.

A praiseworthy attempt to increase our knowledge of this disease is made by Rachford on another page of this journal. Believing, as do many others, that the symptoms of typhoid fever are largely depend-

ent on the products of the typhoid bacillus, namely, the ptomaines induced by its growth, he is probably the first to submit this belief to the test of experiment. Having cultivated the bacilli in various nutritive media and administered them with due precautions to rabbits, he found that the result varied according with the medium, in each case a food-substance, in which the organism has grown. The most interesting conclusion from these experiments is that the ptomaines produced by the growth of the typhoid bacilli in milk, which is the universal diet in typhoid fever, "do not cause either fever or nervous symptoms."

While the number of Rachford's experiments is too small to render them conclusive, they are suggestive enough to induce others to repeat them, and verify or disprove the deductions which have been drawn from them.

REVIEWS.

Diseases of the Eye. A Practical Treatise for Students of Ophthalmology. By George A. Berry, M.B., F.R.C.S. Edin. With colored illustrations from original drawings. Octavo, pp. 650. Philadelphia: Lea Brothers & Co., 1889.

It is a common custom for the author of a book to offer, in his preface, an apology for adding another volume to the great load which fills the shelves of medical libraries. The request of students, the experience of years, and the desire to record satisfactory methods of personal practice are the excuses usually given. It is hence novel and somewhat refreshing to find that Dr. Berry has, without apologetic explanation, "endeavored to give a description of the principal Diseases which affect the Eye, or lead in any way to impaired vision," and gratifying to state that he has accomplished his task with credit, having written a treatise founded upon the results of personal experience and honest analysis of ophthalmological literature, the whole tinctured strongly with the methods and practice of that master of his art Hansen Grut, to whom the book is gracefully dedicated.

A striking and useful feature is the plentiful supply of colored drawings, the work of Dr. Tatham Thompson, which is scattered through the text. These drawings consist not merely in the usual representations of typical diseased conditions of the fundus oculi, but also of the various disorders of the external coats of the eye; some of them, for example, the cut representing cicatricial ectropion of the upper lid, are wonderfully life-like; others, like the illustration of phlyctenular conjunctivitis, decidedly diagrammatic. The book is divided into three sections. The first is devoted to a consideration of the diseases of the eyeball and its appendages, including affections of the orbit, and concludes with a good discussion of Graves's disease. The descriptions are largely clinical—pathological anatomy being advisedly omitted—eminently practical, and the teachings for the most part sound and satisfactory. We are by no means in accord with all of the methods of practice therein detailed. We do not believe that when a simple or catarrhal conjunctivitis has become chronic, of the various astringent applications "alum in the strength of from two to eight grains to the ounce is perhaps the most useful," nor, in the management of diphtheritic conjunctivitis are we enamored of "the treatment recommended by Tweedie, of frequent bathings with a solution of quinine (three grains to the ounce)." Naturally, however, an author describes and recommends those procedures which have yielded in his hands satisfactory results. It has always seemed to us a mistake, in works on diseases of the eye, that so little attention was paid to the management of the bodily health of patients affected with disorders of the conjunctiva and cornea. Dr. Berry, while he has not neglected this important topic, follows, in too many instances, the common custom of indulging in vague directions, like, "Constitutional treatment should, of course, be adopted from the first."

The chapters devoted to diseases of the choroid, retina and optic nerve, and the section describing intra-ocular tumors are very good. The former have been revised by Mr. Gunn, and the latter is illustrated with several excellent colored drawings. Glaucoma is discussed with clearness and ability.

The second section of the book is concerned with the eye as an optical instrument; and the laws and errors of refraction, accommodation, and the methods of examining an eye, as well as the anomalies of the ocular muscles, receive elaborate consideration. So large a proportion of patients who come to an ophthalmic surgeon suffer from imperfect or painful vision the result of optical errors, that these topics demand careful presentation. The chief fault of the chapter, it seems to us, is the unnecessary introduction of mathematical formulæ—formulæ which would find suitable place in a treatise specially devoted to the refraction and accommodation of the eye, but uncalled for in the present book. On the other hand, certain methods of examination, like the shadow-test, are dismissed in a somewhat cursory manner.

In regard to the treatment of hypermetropia, Dr. Berry concludes that the strength of convex glass required is that which corrects the manifest portion of this error of refraction; that the glass should be worn constantly if asthenopia is present, but that in the absence of asthenopia it is sufficient to make use of the correcting lenses only for near work. In persistent asthenopia he suggests that the whole amount of the hypermetropia should be corrected, although he doubts whether this will prove sufficient to relieve the symptoms. The question of whether or not the patient should wear a full correction, has been so often discussed that it is not necessary to give it place in this review. We would merely suggest that in most instances other conditions beside the mere state of refraction will have to decide the line of practice, and that in the vast majority of instances, as we see refraction error, especially among school children, the mere correction of the manifest hypermetropia is not sufficient to give the relief which has been sought. The question of the diminution of hypermetropia in children, and the gradual conversion, in certain instances, of hypermetropia into myopia is clearly pointed out, and the very proper suggestion made that patients, who in early life have been ordered high convex lenses, must be examined from time to time in order to see whether or

not distention of the eyeball has taken place, rendering a weakening of the glasses necessary. Dr. Berry is disinclined to admit an intimate connection between inflammatory conditions of the conjunctiva, cornea, lids, and hypermetropia, believing that this has been much exaggerated. He prefers to consider these inflammatory affections as entirely independent disorders, although he admits that the presence of this state of refraction may aggravate and perpetuate these diseases. This seems to us to be the correct view in the vast majority of cases—a view which renders it none the less necessary, especially in blepharitis and similar affections, to correct the existing refraction error before a cure can be expected. Astigmatism is briefly discussed; in fact, the chapter is distinctly disappointing. Among the objective tests for astigmatism, that, in the opinion of the author, which gives the best results is retinoscopy. It certainly is most useful in patients who are not gifted in giving accurate answers to questions, or among children whose answers cannot be relied upon. The chapter on the ocular muscles and the treatment of strabismus is entirely satisfactory; so also is the section devoted to the examination of the eye, in which, as we might readily expect, the subjective symptoms of which patients complain are clearly and usefully described. Section III. is devoted to the operations, all of which have been gathered together in this portion, thus avoiding unnecessary repetition in the text. In the description of the operations for advancement of a rectus muscle, preference is given to Prince's method, which the author has found simple and effective. His own plan for performing this operation, although the same in principle, differs slightly in the details which Dr. Prince has described. This entire volume is eminently satisfactory, and we think that it should be in the hands of all students of ophthalmology. It is a credit to the author, and should be a matter of pride to English-speaking ophthalmologists. The publishers have spared no pains to make the book attractive in the printing and binding.

SOCIETY PROCEEDINGS.

CINCINNATI ACADEMY OF MEDICINE.

Stated Meeting, September 30, 1889.

DR. B. K. RACHFORD read a paper entitled

EXPERIMENTAL STUDIES ON THE ETIOLOGY OF TYPHOID FEVER.

(See page 453.)

DR. WHITTAKER said that if his remarks were in the line of criticism, he hoped that he would not seem to deny the value of the paper. At the same time, he could not see what could be gained by experiments in this direction. It was not claimed that any of the rabbits had typhoid fever, except one. Even in this one the spleen was not enlarged. It is still a question whether any other animal than man ever suffers from the disease.

The experiments made with a view to determine the proper diet for typhoid fever patients arrive substantially at the results reached by clinical medicine. Furthermore, he could not conceive what bearing such experiments could have upon man, because in man fever and stupor are present, even if the patient be confined to a milk diet. He had under observation at the hospital three cases, in each of which the fever had mounted to 100°–104°, with coma vigil and stupor, who were under a milk diet, exclusively. We must remember that typhoid bacilli are received into the body two weeks before the disease shows itself, be the diet what it may. The diet may aggravate but cannot change the character of the disease.

DR. LEONARD FREEMAN thought the essayist had not claimed that his rabbits died of typhoid fever, except in the case of rabbit No. 10. The experiments were carried out with the object of showing that the bacillus of typhoid fever when grown in different culture-mediums produced different ptomaines with various physiological effects. It was the action of the ptomaines and not the action of the bacilli which the author attempted to demonstrate; and it was rather a surprise when rabbit No. 10 died, apparently of true typhoid fever. It is claimed by most authorities that animals, including rabbits, do not have typhoid; but Dr. Rachford's interesting experiments furnish weighty evidence against this idea. The rabbit's intestines contained follicular ulcerations, and its spleen furnished a pure culture of the Koch-Eberth bacillus, identified by all the means known to bacteriology.

To illustrate the effects of slight external influences on ptomaine-formation, the results of temperature changes upon the bacillus of anthrax may be mentioned. When grown at a somewhat higher temperature than that to which it is accustomed, it loses its frightful virulency altogether or in part, and does not regain it, in some cases, until it is grown again upon a culture-soil suitable to its requirements—that is, until it has passed through the body of a mouse. This is a case in which an exceedingly virulent germ loses all its pathogenic properties by means of an insignificant change in its surroundings. Why may not the character of the ptomaine produced by the bacillus of typhoid be changed by similar slight alterations in its conditions of growth?

It was, in the opinion of the speaker, not the main object of Dr. Rachford's investigations to prove that milk was the best food in typhoid fever. This was merely a side issue. His investigations dealt with the ptomaines and their effects under different conditions of development.

DR. RACHFORD, in closing the discussion, said that in the presentation of this paper he had been careful to draw only such conclusions as were warranted by his experiments, and the accuracy of the experiments or the value of the conclusions drawn is to be judged by others. At the same time it seemed to him that, unless some flaw in the technique or the arguments can be shown, the resulting conclusions are not without value. If rabbit No. 10 died from typhoid fever, it requires no argument to show that this is testimony to a most important proposition, which, although almost universally believed, has never been absolutely demonstrated, viz., that the Koch-Eberth bacillus is the cause of typhoid fever.

He wished also to state that his sole object in undertaking these experiments was to demonstrate that the typhoid bacillus under different conditions produced ptomaines differing in physiological and poisonous properties. His experiments, he thought, warranted this conclusion.

The third conclusion, that milk is the best diet in

typhoid fever, is an opinion long since established by clinical experience. Yet this does not detract from the value of experimental studies which not only corroborate this opinion, but also show us why it is so. The fact, that "some cases of typhoid fever fed upon an exclusive diet of milk have most profound nervous symptoms," when considered in the light of these experiments, gives us an important insight into the etiology of the nervous symptoms of typhoid fever. If the nervous manifestations were produced only by ptomaines formed in the intestinal canal we could, by an exclusive diet of milk, prevent these symptoms. It seems, therefore, probable that the nervous symptoms are produced not only by ptomaines formed in the intestinal canal, but also by ptomaines formed in the various organs of the body, wherever the bacilli find a lodgement and multiply. While a milk diet could in no way affect the symptoms arising from this latter source, it can, by preventing those caused by the absorption of intestinal ptomaines, very much modify their severity.

Since the question of typhoid fever being a "mixed infection" had been introduced into the discussion, Dr. Rachford wished to say that he knew of no evidence either experimental or clinical that would warrant such an opinion. That other than typhoid bacilli are capable of producing poisonous ptomaines in the intestinal tract is quite true, and that these bacilli may in this manner act as a complication of typhoid fever, scarlet fever, puerperal fever, and other diseases, is also probable, but they exist simply as a complication, and are no more the cause of typhoid fever than they are of scarlet fever or any of the other acute infective diseases.

AMERICAN RHINOLOGICAL ASSOCIATION.

Seventh Annual Meeting, held at the Palmer House, Chicago, Illinois, October 9, 10, and 11, 1889.

WEDNESDAY, OCTOBER 9TH.—MORNING SESSION.

The Association was called to order at 10 A.M by the PRESIDENT, DR. JOHN NORTH, of Toledo, Ohio.

The following gentlemen were elected Fellows of the Association: Dr. E. L. Siver, of Fort Wayne, Indiana; Dr. C. L. Dreese, of Goshen, Indiana; Dr. O. F. McGahan, of Chattanooga, Tenn.; Dr. Ely McClellan, of Chicago, Ill.; and Dr. L. B. Gillette, of Omaha, Neb.

After the election DR. JOHN NORTH delivered the

PRESIDENT'S ADDRESS,

which dealt (1) with the relations which the physician bears to the public; (2) the relation of the specialist to the general practitioner and other specialists, and (3) what the American Rhinological Association has done for the public and for the profession.

A paper was read by DR. L. B. GILLETTE, of Omaha, entitled,

REPORT OF A CASE OF BRAIN ABSCESS EMPTYING INTO THE NASO-PHARYNX.

The patient, aged twenty years, farmer by occupation, strong and healthy, while working on an embankment in September last, was driving a loaded wheel-scraper when in some way it became unlatched, and the handle flying up struck him forcibly under the chin, knocking him down a sixteen-foot embankment where he lay unconscious for some thirty minutes. A week afterwards he noticed that something was wrong with his eyes. About the 15th of October he began work in a brick-yard, and after three days complained of nervousness and slight headache. On the evening of the third day he got wet in a rain, which was followed by a chill and fever. A physician who was called pronounced it malarial fever. When Dr. Gillette was summoned he found the patient suffering with intense headache, the pain extending down between the shoulder-blades, and particularly into the right arm. Both pupils were widely dilated. Temperature was 101°; pulse 105°. A day or two after this there developed marked evidence of compression of the brain. The temperature fell to 96°; pulse was as low as 42; and the respirations nine or ten per minute. Complete paralysis of right side, and partial paralysis of left side came on, with complete loss of sensibility as well as of consciousness. The patient also lost the sense of sight, and remained in this condition four days without any perceptible change. Both food and medicine were always taken regularly. Dr. Gillette was surprised one morning by finding him much improved. The mother stated that during the night the patient had a violent attack of coughing, and showed the sputum, which consisted of about an ounce of green, stinking pus mixed with mucus. From this time the patient improved. There was an immediate return of consciousness, an increase of the heart's action and the respirations. Examination of the throat showed that the pus came from above. None came from the Eustachian orifices, but when the patient leaned forward it would run from the anterior nares. The discharge lasted two weeks. Where it came from, or how it got through, Dr. Gillette could not tell, but his opinion favored the ethmoidal and sphenoidal sinuses. As a result of this terrible ordeal the patient, when seen three months since, was totally blind, with the sense of hearing lost in right ear, his right arm useless, and his mind not as clear as formerly.

In the treatment of the case Dr. Gillette used opium, quinine, mercury, cold applications to the head, and cupping at the back of the neck, also the three bromides as they were indicated. When marked compression of the brain developed, he used eighty grains of iodide of potash daily, continuing for thirty days.

DR. THOMAS F. RUMBOLD, of St. Louis, read a paper entitled

REASONS WHY SO MANY PHYSICIANS FAIL IN TREATING CHRONIC RHINITIS.

The first reason is defective instrumentation. Not one of the physicians whose offices he visited had a tongue depressor that would not cause a patient to retch when introduced into the mouth, and the blades of all the instruments were too wide to go between the teeth, and too long. These depressors were seldom used in examinations, but instead, the exceedingly defective method of drawing the tongue out with a napkin.

The second cause of failure is that the spray-producers used were made for watery solutions only. None of these physicians possessed an instrument that would throw warm vaseline, which he considers superior to fluid cosmoline.

Third, the compressed air used was taken from a reservoir of a capacity of from three to five gallons, at

a pressure of from thirty to seventy pounds. The reservoir was filled by an air-pump whose barrel was made of brass; the piston was packed with leather, which readily decomposes, and the pump was lubricated with rancid oil. Ten pounds is the greatest pressure that the mucous membrane will tolerate, while the majority of patients require only from six to eight pounds pressure.

The fourth reason for failure is an *anatomical* one. By this Dr. Rumbold referred to errors in locating the disease. Innumerable clinical observations and post-mortem examinations prove conclusively that rhinal inflammation invariably commences on the superior and middle turbinated processes and extends in all directions from the nasal passages into the passages connected with them.

Keeping in mind that every irritant produces inflammation, the indications for treatment of chronic rhinitis may be summarized as follows:

(*a*) The diseased secretion, which is always irritating, should be removed. Morbid growths, also being irritating, should invariably be removed.

(*b*) The new secretion, which is formed upon the cleansed surfaces, should not be allowed to become acrid.

(*c*) Hygienic and sanitary measures should be insisted upon.

DR. A. DE VILBISS, of Toledo, in opening the discussion, differed from Dr. Rumbold in that he did not believe properly tanned leather readily decomposes. Rancid oil for lubricating the air-pump is hardly ever used. Personally, he used vaseline and naphthol. With regard to vaseline, it was used as a protector to the mucous membrane on account of its density.

DR. O. F. MCGAHAN, of Chattanooga, heartily concurred in what Dr. Rumbold had said regarding vaseline. Where a protection of the surface is desired, nothing will take the place of vaseline. He sometimes uses iodine in weak solutions, and has so far observed no ill effects following its use.

DR. A. G. HOBBS, of Atlanta, uses the liquid vaseline. First, for cleansing purposes; and, second, for its convenience. He can warm it much more rapidly than the solid vaseline. The danger and greatest objection to the douche in cleansing the nasal passages, is its liability to set up a catarrh of the middle ear.

DR. JOHN NORTH, of Toledo, did not favor the use of tongue depressors, and believed that patients should be trained to manage their tongues without them. He uses the oil of vaseline for cleansing the nasal passages, with an alkali, eucalyptus, or some other antiseptic dissolved in it.

DR. C. L. DREESE, of Goshen, Indiana, read a paper on

REFLEX SYMPTOMS OF RHINAL DISEASES, WITH REPORTS OF CASES.

The first case was one of heart, stomach, and lung troubles, caused by sympathy from rhinal disease. The removal of the latter affection was followed by recovery from the former. The second was one where incontinence of urine, as a reflex symptom of chronic catarrh, was cured by treating the catarrhal trouble alone. In the third, epilepsy was a complication of rhinal disease.

AFTERNOON SESSION.

DR. C. H. MOORE, of Indianapolis, contributed a paper on

OCULAR REFLEX SYMPTOMS OF NASAL DISEASES.

He had relieved a case of neurotic affection of the Eustachian tube of the left ear, by spraying the nasal passages with vaseline. Hack mentions a number of cases of hemicrania and asthma cured by the galvano-caustic destruction of hypertrophied nasal mucous membrane. Voltolini demonstrated that asthma could be relieved in some cases by the removal of nasal polypi. A certain group of eye symptoms, as lachrymation, photophobia, conjunctival hyperæmia, are observed in a number of patients under the care of the rhinologist, when the examination of their eyes reveals no anomaly. The vision may be normal, no eye-strain present, the conjunctivæ healthy, the puncta lachrymalia normally situated, and the tear ducts open. For such cases a simple eye-wash may have been ordered, cold or warm applications recommended, and a general hygenic treatment pursued without any relief to patients, while treatment of the rhinal affection was generally followed by a cure.

In the cases reported the following symptoms were noted:

1. Burning and smarting sensation of the eyelids, especially in the morning.
2. Difficulty of distinguishing objects in daylight.
3. Increased vascularity of the conjunctiva and lachrymation on exposure to the air.

DR. N. R. GORDON, of Springfield, Illinois, said his rule of proceeding with such cases is to examine the eyes for the condition of refraction, which, if normal, and no other source of irritation can be found in the eye, he examines the mucous membrane of the nasal passages, where very often the cause is found.

DR. E. R. LEWIS, of Indianapolis, said there was no doubt that a number of such cases are being constantly referred to the rhinologist. About one-third of his cases were sent to him by oculists, but not until the eye-trouble had been corrected. This he believed to be the logical course to pursue in such cases.

DR. E. FLETCHER INGALS, of Chicago, related the case of a lady which illustrates the possibilities of eye-trouble being caused by nasal disease. She came to him with hypertrophic rhinitis. He proceeded to cauterize the turbinated bodies, and before she left the office she asked him if he could not do something for her eyes, stating that she was unable to use them more than five minutes at a time. He referred her to an oculist; on her return, two weeks later, she said she had not been to an oculist, but that the day after the nose had been cauterized she was able to read at night without difficulty.

DR. N. R. GORDON read a paper on

THERAPEUTIC MEASURES IN RHINOLOGY.

He said that after the surgical removal of hypertrophied tissue, a local treatment, continued at short intervals for one or two years, or even longer, is necessary. This should consist in the application of the oil of vaseline with a small amount of eucalyptol, or something of that character. Astringents do but little, if any good. Where the oil of vaseline fails, salt and water in proper propor-

tions with a small amount of Listerine or Dobell's solution are suitable remedies. To prevent mouth-breathing during sleep he recommends his patients to wear a little instrument made of celluloid that fits between the teeth and lips.

In atrophic catarrh, after the removal of all secretion on the surfaces, where the mucous membrane is very thin, or even ulcerated, he finds the application of a solution of resorcin, one drachm to the ounce, to be exceedingly beneficial. In the most unyielding and obstinate forms of nasal catarrh he uses a glycerine suppository composed of 95 per cent. glycerine, and 5 per cent. stearin. The solidified glycerine is placed so as to come in contact with the atrophied or ulcerated portion of membrane. The glycerine soon asserts its well-known affinity for water, and the result is an abundant flow of thin mucus.

THURSDAY, OCTOBER 10TH.—MORNING SESSION.

DR. C. H. VON KLEIN, of Dayton, Ohio, read a paper entitled

ATROPHY, HYPERTROPHY, AND DEVIATIONS OF THE SEPTUM,

in which he said he had examined the nasal cavities in over 600 patients, and found not more than 2 per cent. with absolutely straight division of the nares. In almost every case he observed deformities of some sort, either atrophy, hypertrophy, or deviation.

The causes which most commonly cause deviation of the septum arise during babyhood. When children commence to creep and walk they frequently fall, and, nine times out of ten, on their nose. Personal observation leads Dr. Von Klein to believe that atrophy of the septum is confined to the cartilaginous portion. Hypertrophy, on the other hand, is confined to the osseous portion and these conditions are generally caused by such injuries as may occur to any other part of the bony system.

This paper was followed by one on

THE TREATMENT OF CHRONIC NASAL CATARRH,

by DR. C. F. MCGAHAN, of Chattanooga, in which the author said: Formerly this disease was treated principally with strong astringents. Where we have polypi the first thing to do is to remove them, either by the snare or the galvanic cautery. Where they are located in the anterior chamber, he prefers the cautery; but when they are in the posterior chamber of the nose, the snare. Acids he does not like in the treatment of hypertrophies, as it is impossible to control the amount of tissue which they destroy, and the pain is greater than that of the cautery. The excessive hypertrophy being reduced, we have simply a case of chronic catarrh to combat.

Having cleansed the nasal cavities thoroughly with Dobell's solution, or the combination with Listerine which is recommended by Lefferts, we are now ready to apply our medicaments. In moderate hypertrophy he generally uses a spray of vaseline with a combination of the iodides, or with iodine and carbolic acid, which should be used about three times a week. On account of the hydragogue effect of glycerine upon the tissues, it occurred to him some time ago that in hypertrophic conditions of the nasal cavity it might be useful by drawing water from the tissues and thereby reducing them in size. He had often seen it advised in combination with other drugs in the different sprays, but his way of using it was similar to that of the gynecologist. The cavity having been thoroughly cleansed, he applies to the hypertrophic membrane a tampon soaked in a solution of glycerine one part, water four parts, which he allows to remain from one to four hours. As the membrane becomes accustomed to the glycerine, he rapidly increases the strength until equal parts of it and water are used.

AFTERNOON SESSION.

DR. A. DE VILBISS, of Toledo, contributed an interesting paper entitled

SURGICAL TREATMENT IN DISEASES OF THE NOSE,

in which he said that he did not wish to be understood as holding that every case of nasal catarrh demands surgical interference, but that in every case that does demand operation a catarrhal condition of the nasal passages is usually found. He has relieved frontal headaches, mental depression, etc., by the removal of hypertrophic tissue from the middle turbinate. He believed the time was not far distant when the sphenoidal and frontal sinuses, posterior and anterior ethmoidal cells (after death) would be examined at autopsies. Schwable, Axel Key, and Retzius have demonstrated the fact that not only can the lymphatics of the nasal mucous membrane be injected from the subdural and subarachnoidal spaces, but if force be used the fluid will pass through the lymphatics to the surface of the nasal mucous membrane. Permanent nasal stenosis should be relieved by an operation, as it is due either to traumatism, hypertrophic tissue over turbinate bones, thickening of tissue or deflections of the nasal septum, gelatinous polypi, adenoma of vault of pharynx, fibromata, or sarcomatous tumors. Preparatory to operating he cleanses the nasal cavities, and after operation protects the cut surfaces by keeping them covered with iodized or carbolized albolene or vaseline. Hemorrhage he controls by cotton plugs. If the source of the hemorrhage is well back in the nasal cavities, he uses small cotton plugs tied with a string in the form of a kite-tail, which are easy to introduce and easy to remove.

A paper by DR. E. L. SESSIONS, of Hillsboro, Texas, entitled

THE ADMINISTRATION OF QUININE WHERE THERE IS DEFECTIVE HEARING,

was read by title in the absence of the author.

FRIDAY, OCTOBER 11TH.—MORNING SESSION.

At the solicitation of Dr. Seth S. Bishop, of Chicago, a committee to report annually was appointed by the President to coöperate with the United States Hay Fever Association, with reference to the investigation and treatment of hay fever.

DR. R. S. KNODE, of Omaha, contributed a paper on the

IMPORTANCE OF CONSTITUTIONAL TREATMENT IN RHINO-PHARYNGEAL INFLAMMATIONS,

in which he said the rhinologist often becomes discouraged with the means at his command when he finds

that patients do not improve, but if their history was carefully investigated there would be found some diathetical condition causing the nasal trouble, which, if relieved, would be followed by a subsidence of the local inflammation. This catarrhal condition frequently extends into the stomach and intestines, and from the duodenum to the ductus choledochus, when we have the combined symptoms of gastro-intestinal catarrh and jaundice.

The principal sympathetic phenomena caused by this condition are sick headache, depression, melancholy, sleeplessness, hypochondria, disturbed heart's action, lassitude, and irritable temper.

The treatment of such cases is the usual treatment for gastro-intestinal catarrh.

DR. E. L. SIVER, of Fort Wayne, Indiana, read a paper on

REFLEX INFLAMMATION OF THE NOSE AND THROAT.

The author reported a case of laryngitis with aphonia, which lasted two weeks, and, he thinks, arose from a deflected septum and posterior hypertrophy of the inferior turbinated bone.

DR. A. G. HOBBS, of Atlanta, read a paper on

CATARRHAL NEURALGIA,

by which he meant to include not only the headache and browaches that are caused by pressure of nasal hypertrophies or foreign bodies, but all reflex pains that have for their origin pressure in the nasal cavities, wherever located. He had no statistics bearing upon the comparative frequency of catarrhal and ocular neuralgias other than his own note-book of the last three years. In it he found fifty-four cases under the combined headings: *Catarrhal neuralgia, ocular headache, and catarrhal and ocular neuralgia combined;* thirty-six cases occur under the first caption, fourteen cases under the second, and four cases under the third.

After recognizing the etiology of a case exhibiting these reflex pains, temporary relief should be given the patient by the application of cocaine sprays, or in the case of complete stenosis, the cotton probe saturated with cocaine, followed by the spray. The effort then should be to reduce the pressure permanently by the most rapid means. If the pressure be due to a polypus, extract it; if to a deflected septum, remove the deflection; and if it be (as is most likely the case) due to an hypertrophy, reduce it with the galvano-cautery, the snare, glacial acetic acid, or chromic acid. He most frequently resorts to the latter. After the removal of the pressure, pain decreases to a great extent; if it does not entirely cease, when the more soothing treatment of vaseline sprays, in combination with cocaine, pinus canadensis, oil of terebene or oil of eucalyptus, daily or triweekly, will complete the resolution.

He knew of no class of cases that applied to the rhinologist for relief in which treatment gives more prompt and satisfactory results. Indeed, if the diagnosis is correct, the result is absolutely sure under proper treatment

DR. ELY MCCLELLAN, of Chicago, read a paper on the *Physiological and Therapeutic Action of Certain Drugs in the Treatment of Affections of the Upper Air-passages.*

OFFICERS FOR 1890.

President.—A. G. Hobbs, M.D., of Atlanta, Ga.

First Vice-President.—A. B. Thrasher, M.D., of Cincinnati, Ohio.

Second Vice-President.—E. R. Lewis, M.D., of Indianapolis, Ind.

Secretary and Treasurer.—R. S. Knode, M.D., of Omaha, Neb.

Librarian.—John North, M.D., of Toledo, Ohio.

Member of Council.—C. H. Von Klein, M.D., of Dayton, Ohio.

Place of next meeting, Louisville, Ky., in 1890, in conjunction with the Mississippi Valley Medical Association.

CORRESPONDENCE.

BALTIMORE.

(From our Special Correspondent.)

To the Editor of THE MEDICAL NEWS,

SIR: The period of summer stagnation is now past, and the currents of medical life are beginning to quicken once more. Many of our prominent physicians have taken the opportunity to run across to Europe, whence they send home enthusiastic accounts of the great clinics to which the ready courtesy of foreign professors has given them access. The opening of the training-school for nurses of the Johns Hopkins Hospital, on the 9th inst., was largely attended by the physicians and prominent citizens who were invited, and the ceremony, the neatness and intelligence of the nurses, the careful arrangements for the comfort and the training of the pupils, as well as the "afternoon tea," to which all were asked, formed the topic of much conversation after the return of the favored guests to their homes. It is to be hoped that the Baltimore public will prepare for the advent of these graduates by enlarging their ideas of nurses' wages, for, if not, the cities of the North will reap all the benefits of our training-school.

As to what a nurse is to do when she is chosen to serve under a doctor who is ignorant of modern advances in medical and surgical treatment, and who "doesn't see any use in disinfecting typhoid-fever stools," or who "never split a perineum in forty years' practice of obstetrics," is a hard matter to decide.

The Medical School of the Johns Hopkins University, the University itself, and the Hospital have all won such high esteem from our citizens that there is not the faintest doubt that, should the Baltimore and Ohio stock be entirely lost, Baltimoreans would in due time provide fully, either by donation or by legacy, for their establishment on a firm basis. Fortunately, the stock of this road is rapidly increasing in value, and before long all receipts may be expected to equal their original amount.

It is reported that the Medical School of the University of Maryland has terminated its contract with the Sisters of Mercy, and will engage trained nurses (not belonging to a religious order) in their stead.

The College of Physicians and Surgeons has appointed Dr. George Preston, a gentleman well known for his work in diseases of the nervous system, to lecture upon physiology during the coming winter. Dr. George Rohé, whose writings upon diseases of the skin and hygiene, and medical electricity are well known, has been chosen

to fill the Chair of Obstetrics in the same institution. Although he has written little upon this subject, it is expected that, with his experience based upon private obstetrical practice, he will make a name for himself in this as in other branches of medicine. Prof. Sewall is at present in ill-health, and has been compelled to delay his entrance upon his duties at the College.

DETROIT.

(*From our Special Correspondent.*)

To the Editor of THE MEDICAL NEWS,

SIR: On the 7th inst. the Detroit Medical and Library Association held its thirteenth annual meeting, and the reports of the secretary and treasurer showed the Association to be in a most flourishing condition. It numbers one hundred and twenty-two active members on its roll, and is the leading medical society of the city, and I may say, from the amount of work accomplished, in the State.

An item of interest to the State of Michigan, more particularly to Ann Arbor and Detroit, was the election, by acclamation, of Dr. Donald Maclean, late Professor of Surgery in the University of Michigan, to the presidential chair of the Detroit Medical and Library Association for the coming year. It will be remembered that Dr. Maclean, who has been connected for the past nineteen years with the Medical Department of the University of Michigan, has done a very large amount of successful work, and brought the department to the high position it now holds, was compelled to resign from the Chair of Surgery on account of his persistent efforts to move the Clinical Department to Detroit, where it might enjoy a larger field, and more thoroughly fit the students for active practice; the Board of Regents deemed it best for the welfare of the University and the education of students to keep the clinic in the small town of Ann Arbor, and thought that Dr. Maclean's presence in the Faculty was a disturbing element.

In addition to the above, and as an evidence of the entire approbation of the movement to establish the Clinical Department of the University in Detroit, Dr. J. E. Frothingham, Dr. Maclean's colleague in the movement, was elected by unanimous vote to the presidency of the State Medical Society, at its meeting held in Kalamazoo last May.

The Association of Baggagemen, which recently met in this city, passed resolutions insisting that all bodies of persons dead from contagious diseases, heid for transportation, must be properly prepared for shipment by being wrapped in sheets saturated with mercuric chloride and placed in metallic caskets, to prevent the spread of disease.

The Michigan State Board of Health, at Lansing, has recommended that typhoid fever be classed with diphtheria, scarlet fever, and similar affections, and that it be reported in a similar manner to the health officer of the city or town in which it occurs; furthermore, it recommended the adoption of a system of placarding houses where such cases exist. The suggestion is at present under the consideration of the Detroit Board of Health, and Dr. William Brodie, its president, has issued invitations to the physicians of the city to meet and consider the advisability of adopting the measure.

An epidemic of dysentery has been prevailing at Stockbridge, Michigan, for some time past, which presents the disease in a typical form.

NEWS ITEMS.

The Southern Surgical and Gynecological Association.—The annual meeting of the Southern Surgical and Gynecological Association will be held at Nashville, Tennessee, on the 12th, 13th, and 14th of November, under the presidency of Dr. Hunter McGuire, of Richmond, Virginia. The programme promises to be a most interesting one. In all, thirty-eight papers will be presented, among which are the following: Direct Herniotomy; Abortive Treatment of Acute Pelvic Inflammation; Relation of the Nervous System to Reparative Surgery; Cranial Surgery; Treatment of Ectopic Pregnancy; Laparotomy in Extra-uterine Pregnancy; Experimental Study of Intestinal Anastomosis; Operative Interference in Ascites; Puerperal Convulsions; Coccygodynia; Improved Cæsarean Section *versus* Craniotomy; Tropho-neurosis as a Factor in the Phenomena of Syphilis; Gynecology in its Relation to Obstetrics; Triple Amputations; Treatment of Contracted Bladder by Hot-water Dilatation; The Achievements of Modern Surgery; Pus in the Pelvis, and how to deal with it, etc.

Among the members of the profession intending to read papers are the following: Drs. R. B. Maury, of Richmond, Va.; Wm. C. Dabney, of the University of Virginia; D. W. Yandell, of Louisville, Ky.; C. Kollock, of Cheraw, S. C.; G. Frank Lydston, of Chicago, Ill.; Joseph Taber Johnson, of Washington, D. C.; A. Lapthorn Smith, of Montreal, Canada; J. Ewing Mears, of Philadelphia; Joseph Price, of Philadelphia, and others.

Trouble over the Presidency of a Medical Staff.—The Bushwick Dispensary in Brooklyn is just at present involved in a litigation because of a quarrel between two rival factions in the medical board. As these two parties have both elected presidents, each of whom claims that he has been legally appointed, one of them, Dr. Sizer, has applied to the Supreme Court for a mandamus obliging the board of trustees to recognize him as the legally elected officer.

Smallpox in Kings County, New York.—During the last twenty-five years it is estimated that there have been 4800 cases of variola in Kings County, New York, with 1200 deaths; while of varioloid there have been 1500 cases with only 2 deaths.

Cincinnati Hospital.—The successful candidates in the competitive examination for the position of residents to the Cincinnati Hospital were Messrs. Minor Morris, John H. Sandis, M. B. Brady, Lincoln Mussey, A. H. Freiburg, and H. W. Bettmann, students of the Medical College of Ohio, and Mr. Arch. I. Carson, of the Miami Medical College.

Medical College of Ohio.—This institution opened with a much larger attendance than for several years. No preliminary course of lectures is now given; but for three weeks preceding the opening of the regular session, more than eighty students were engaged in practical work in the chemical, histological, pathological, and bacteriological laboratories.

Leprosy in the Sandwich Islands.—The leper colony of the Sandwich Islands now contains less than 100 inmates, the majority being males. The number is on the decrease. The Hawaiian Government devotes $100,000 annually toward the maintenance of the colony. According to Dr. Hoffman, the resident physician, the duration of the disease is about eleven years. Dr. Hoffman is himself a victim of leprosy.

A New Illinois Medical Register.—Dr. Rauch, Secretary of the Illinois State Board of Health, announces that a new medical directory for his State will soon be published. There has been no revised edition of this useful publication since 1886, the Secretary's hands having been tied by unfriendly legislators and a want of the necessary funds.

Warner's "Safe Cure".—The *New York Medical Journal* of October 19, 1889, states that the police of Vienna have seized the entire stock of "Warner's Safe Cure," held by the pharmacists of that city. This was done not so much because of the character of the compound as because of the charlatanic advertisements which accompanied the nostrum. The agents for its sale had complied with the Austrian law, which directs that the formula of its composition shall be made known in regard to every proprietary medicine before it can be put on sale in the pharmacies. The *Pharmaceutische Post* is quoted as saying that the fault really lay in the quackish pretensions that were published in relation to the compound. Very severe rulings and examples have recently been made against certain preparations on that account.

Dr. James Downie, a young Scotchman who has been imprisoned on the charge of homicide, in Brooklyn, N. Y., has been set at liberty, the Grand Jury having found the testimony against him entirely inadequate to justify his detention. He will probably return to Glasgow, where he formerly practised.

A Biological Endowment.—Dr. Daniel Ayres, of Brooklyn, last week, made known his intention to give to the Wesleyan College eighty-six acres in New Jersey, worth over $20,000; this is an additional endowment of the Department of Biology, to which he gave $25,000 last April. Dr. Ayres feels called upon to befriend the cause of biology for the reason that in our colleges this important branch is about the last to be remembered when endowments are being dispensed.

Dr. W. Remsen Taylor, the Heath Officer of Long Island City, has been charged with receiving extortion money, for permitting certain acts on the part of contractors engaged in filling sunken lots. The persons who paid the money are not indicted, but the alleged receiver of it is. Dr. Taylor, in his own defence, avers that the funds paid him were used for the disinfection of the materials brought to the town, and for other proper sanitary purposes.

Typhoid Fever at Yale College.—Two deaths from fever alleged to be typhoid occurred last week among the collegians at Yale, and six cases of sickness of like nature have been reported among the students. Dr. Seaver, the medical consultant to the University, has expressed doubt as to whether it is enteric fever in all the cases, and no common cause for them can be made out.

Philadelphia Polyclinic.—At a meeting of the Board of Trustees of the Philadelphia Polyclinic held October 21, 1889, Dr. R. J. Levis was elected Emeritus Professor of Surgery; Dr. Charles B. Nancrede, Emeritus Professor of Orthopædic Surgery; Dr. Charles H. Burnett, Emeritus Professor of Otology; and Dr. J. Solis-Cohen, Emeritus Professor of Laryngology. Dr. T. G. Morton was elected to the Chair of Orthopædic Surgery, Dr. T. J. Mays to that of Experimental Therapeutics and Physiology.

The Chair of Clinical Surgery was filled by the election of Thomas S. K. Morton, M.D. Professor C. L. Bower, M.D., was elected Adjunct Professor of Clinical and Operative Surgery.

A plan for the progressive endowment of free beds, supplementing the present arrangement, was adopted whereby a person can, by the payment of $500, endow a free bed for one month in every year in perpetuity. By this arrangement one month may be added at a time until a bed becomes free all the time in perpetuity. The report of the Building Committee was read, in which it was stated that contracts had been signed for preliminary work to the amount of $25,150. About $30,000 will be required to finish the building, and it was decided to push the building to completion as fast as donations for the purpose could be obtained.

The laying of the corner-stone of the new Polyclinic building, on Lombard Street, west of Eighteenth, will take place on the afternoon of November 2d, at 3.30 o'clock. Mr. Clifford P. McCalla, Grand Master of the Masons of the State of Pennsylvania, will officiate at the Masonic ceremonies, and Dr. R. J. Levis's testimonial free bed fund will be presented by Mr. C. B. Baeder, Chairman of the Committee having in charge the raising of this $5000 fund. Judge William N. Ashman, of the Orphans' Court, will accept the custody of this fund on behalf of the trustees. Hon. Henry K. Boyer will deliver the address of welcome, and Professor John B. Roberts, the originator of the Institution, will read a retrospect. The ceremonies will last about an hour.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF THE MEDICAL CORPS OF THE U. S. NAVY, FOR THE WEEK ENDING OCTOBER 17, 1889.

BERTOLETTE, D. W., *Surgeon.*—Detached from the "Franklin," and ordered to duty at the Naval Hospital, Philadelphia.

RUSH, N. H., *Passed Assistant Surgeon.*—Detached from the Naval Hospital, Philadelphia, and ordered to the "Saratoga."

HIBBETT, C. T., *Passed Assistant Surgeon.*—Ordered to the "Franklin."

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE-HOSPITAL SERVICE, FROM OCTOBER 5 TO OCTOBER 19, 1889.

VANSANT, JOHN, *Surgeon.*—Granted leave of absence for fifteen days, October 16, 1889.

GOLDSBOROUGH, C. B., *Surgeon.*—Leave of absence extended thirty days, on surgeon's certificate of disability, October 18, 1889.

PERRY, T. B., *Assistant Surgeon.*—Ordered to temporary duty at San Francisco, California, October 15, 1889.

VAUGHAN, G. F., *Assistant Surgeon.*—When relieved, to proceed to Evansville, Indiana, for temporary duty, October 9, 1889.